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An integrative perspective and method for the knowledge-based economy

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Strategy Execution:
**An integrative perspective and method for the knowledge-based
economy**

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Abstract

Within the field of business administration, in research and in the practice of business, the issue of strategy execution lacks a generally accepted paradigm. Strategy execution so far has not received the attention it should be given in view of its critical role in the performance of the firm, especially with the growth of complexity in organizations. The attention that is usually given to strategy execution in the strategy literature and especially in popular management books is, with a few exceptions, not linked to the system of management control being the function responsible for the system of strategy execution, especially through the resource allocation process. Vice versa, within the function of management control also divergent schools exist on strategy execution, and the field of management control under influence of the capital market has drifted too much away into management accounting. The paper aims to build bridges between various schools in strategy, and practice, on strategy execution. The motivation for this is that the organization of information in today's intangible capital based firms is of more importance, as is the traditional Weberian hierarchical structure. Especially a redesigned resource allocation process with additional planning dimensions to organize information, turns out to solve the problem of integration across divisions, business units and resource departments thus solving the problems with matrix organizations, project portfolio management, end-to-end processes, etc. The paper presents a solution to the limitations of Bower's bottom-up resource allocation process, using the system of Kaplan & Norton, but modifying their system for the need of organized complexity. This integration is achieved by taking the complexity of the modern firm as an integrative viewpoint.

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1. Introduction¹

The German statesman Otto von Bismarck (1815 – 1898) is known for his statement: “Strategie ist einfach doch schwierig.” To formulate a strategy is one, to execute (implement) it successfully is a totally different and in most cases a far more difficult process. Firm performance and success eventually is determined more by successful strategy execution as it is by a well-defined strategy (Robert A. Burgelman, 2002; C. M. Christensen, 1997; R.G. McGrath & Macmillan, 2013). So understandably many academics and management consultants are interested in strategy execution as an object of research and a topic of consulting. Charles H. Noble in his article *The Eclectic Roots of Strategy Implementation Research*, states that ‘ the researcher in strategy implementation faces a formidable challenge. Although this area has drawn many calls for research attention, there is not a deep and cohesive body of prior literature on which to draw in developing new efforts.’ (Noble, 1999). In his article Noble fails to mention the book with the most comprehensive view on strategy execution, in terms of including management control systems and behavioral aspects, written from the perspective of general management, Joseph L. Bower’s *Managing the Resource Allocation Process*, first published in 1970 and in a second edition published in 1986 (Bower, 1986). As we will see Bower’s method for strategy execution, as acknowledged by Bower, is obsolete in view of the modern economy and modern firm, but a degenerated version of Bower’s method is still widely applied.

Based on Peter F. Drucker’s 1954 concept of managing by objectives (MBO) Bower elaborated his *bottom-up resource allocation process*, which will be explained in this paper. Not only Noble in his intended review article fails to mention Bower, also other authors relevant to strategy execution, Anthony, Merchant, Lorange & Vancil, Simons, are overlooked by authors on strategy execution like e.g. Grant, De Wit & Meyer, Bossidy & Charan, Martin, Higgins. The

¹ This paper has benefitted substantial from the comments on an earlier version made by Dr. Jeroen Kraaijenbrink.

² Correspondence with Robert S. Kaplan helped me to focus this paper.

omission of Noble is not an isolated event, scores of authors writing on strategy execution fail to refer to, be it building on or contrarian to, Bower or other authors relevant for Noble's cohesive body: Heesen (2016), Lafley & Martin (2013) and Verweire & Van den Berghe (2004) are a few examples. Textbooks on strategy, except for a single one like Grant, define strategy execution in terms of sociological or general organization theory, which as we will see is a part of the problem.

What we need to overcome is a silo mentality in research: "To make real progress, strategy process [because the relation between strategic thinking, strategic planning and strategy execution is changing, JS] needs an integrating theory. To build one, the field urgently needs a few ambitious multidisciplinary research programs. In the meanwhile, the deluge of reductionist papers that currently inundate the field are likely to end up as isolated puddles, not as part of the river that every one is waiting for." (Chakravarthy & White, 2002, p. 202).

The question to be asked is what explains such an omission in use of sources in the research and writing on strategy execution? Two possible explanations will be presented.

The first explanation is to be found in the pedagogical model of the MBA-program. This model is based on the functional fields in business, strategy, marketing, management accounting, HRM, operations management, finance, etc. (Moldoveanu & Martin, 2008). In this model is missing the field of management control, or it is taught as part of management accounting and management accounting is not about strategy execution. Whereas Anthony in the sixties of the twentieth century defined management control as the function or system by which management translates strategy into task control, that is resource allocation, targets and in decision rights (Anthony & Govindarajan, 1995). Even Michael Jensen's Harvard CCMO-course, Coordination, Control, and the Management of Organizations, only touched in an implicit way on the issue of strategy execution (Jensen & Wruck, 1998). To this is to be added that the field of management control with its two main text-books both titled *Management Control Systems* drifted into performance management and is more about management accounting, and these titles fail to refer to strategy execution, contrary to a third text-book by Robert Simons, *Performance*

Measurement & Control Systems for Implementing Strategy (Anthony & Govindarajan, 1995; Merchant & Van der Stede, 2012; Simons, 2000).

Bower's *Managing the Resource Allocation Process* is written for the general manager, not for the controller but is missing from Jensen's CCMO-course (about the relevance of Bower's book for today's economy we will elaborate further on in this paper). So a first explanation why authors on strategy execution have a limited scope on this topic is to be found in the functional silos of the MBA, reading habits and the positioning of books and journal articles in functional specialized journals. What we need is an integrative approach reflecting the predisposition and the capacity to hold diametrically opposed ideas (e.g. culture and systems) as demonstrated by successful CEOs (Martin, 2007, p. 5) The author of this paper is both an instructor, for a CCMO-type course in an MBA-program and an instructor in an executive program for controllers.

A second explanation for Noble's missing deep and cohesive body on strategy execution literature is to be sought in the nature of management books itself. As we will explain further on in this paper, modern strategy execution requires some specific technical measures in the systems of organizations, different from generic themes like culture, leadership, change and performance management. Books like Bossidy & Charan's *Execution: The Discipline of Getting Things Done*, are written in a narrative in style, like Lafley & Martin's *Playing to Win: How Strategy Really Works*.

The three textbooks mentioned before as Bower's book are technical of nature and require close reading over a longer period of learning. Especially American management books, but this is copied in Europe, are edited on the Readers Digest Formula from around 1900, and in particular on the idea that cultural life, extended into management thinking, exists of pseudo events; everything that is being seen or heard, must immediately be understood, preferably in an unconscious way (T. Clark & Greatbatch, 2004). To which the American historian Boorstin added: "In this new world, where almost everything can be true, the socially rewarded art is that of making things seem true", in describing how management books are edited (Boorstin, 1969).

Narrative management books, as opposed to academic, functional technical and mathematical style books, edited according to the Readers Digest Formula, certainly did a job in promoting all kind of new ideas and helped managers to define a change agenda in their organizations. But it is often overlooked that there are differences between those narrative-style management books. Books written by e.g. Michael Porter and by Kaplan & Norton are carefully based on underlying economic theories and on changes in the basic conditions in the economy, e.g. the shift towards the knowledge economy, the shift towards intangible assets. Other narrative-style management books often are more reflections of personal experiences, on a perception what an audience may be receptive for and often lack a solid economic or behavioral science foundation. Even in some academic writings on strategy execution authors expresses themselves in popular phrases, like the Eight 'S's of Successful Strategy Execution which certainly will serve tea & biscuit meetings but are not helpful to take those measures which are needed for modern strategy execution (Higgins, 2005). The popularity of narrative-style management books is not to be denied. In view of the increasing complexity of the economy and thus organizations, an increase in knowledge, especially conceptual complexity is needed, that is an increase in the variety of technical knowledge with respect to systems, processes, internal governance etc. of organizations (Lindsey, 2012). Narratives simplify the world of management and organizations and therefore have an audience. But also for strategy execution applies: "Wisdom is that unit of simplicity which is achieved only after complexity has been faced and overcome" (Waldrop, 1993). We need to develop and master a more complex view on and understanding of strategy execution in order to master complexity to achieve economic growth (Hidalgo & Hausmann, 2009). As a consequence we need academic publications and management books that help students of business administration and practitioners to develop the conceptual complexity and cognitive structure as needed to deal with the new developing complexity of the economy and business, in order to achieve a new, reliable form of simplicity.

With that the purpose of this paper is to explain that basically a deep and cohesive prior literature on strategy execution exists, that a number of distinct schools can be defined, what developments are and what new challenges. Those interested in doing research in this field, or more contemporary, doing (organization) design in this field, should be prepared to invest in a more holistic, multidisciplinary view and should be prepared to address some technical issues in especially management accounting and IT-governance.

Such an integrative approach is necessary because strategy execution, like strategy itself, is changing in nature, due to developments like combinatorial innovation, a growth of complexity in the economy, the increasing role of human capital, the need for pro-active behavior and decentralization of initiatives in organizations, the changing nature of firms due to the growth of information, the need for discovery-driven growth, the need for loose programming (trial-and-error) in order to be in-control in a dynamic environment, etc. Especially is a challenge that strategic thinking, strategic decision making, strategic planning and execution no longer are sequential distinct phases (although in hindsight there always has been an endogenic relation between those phases), but increasingly are parallel, multi-level processes, both at the level of the individual and at the level of the organization.

2. The resource allocation process

If there is no general accepted paradigm for strategy execution and one wants to build bridges between schools for strategy execution to achieve a more comprehensive view on strategy execution, the question is from what a priori idea, model, viewpoint, perspective or interest, one is or should be thinking and working?² Even the question is whether one single perspective can be adequate for strategy execution.

² Correspondence with Robert S. Kaplan helped me to focus this paper.

A first perspective to be used is that of business administration, that is the view of the general manager, the CEO, which is about to achieve objectives of the firm in a most efficient way. After World War II the MBA focused on shareholder value, integrating theories and methods of corporate finance (Khurana, 2007). This marginalized the stakeholder approach, but the stakeholder approach always remained on the agenda, also in strategic management (Freeman, 1984). The corporate governance approach emphasized initially the shareholder value, but due to the more open nature of the firm and its dependency on a knowledge-economy and a demand from society for corporations to be a good corporate citizen the role of stakeholders became more acknowledged and even a shift set in from thinking in terms of shareholder value to shared value (M. E. Porter & Kramer, 2011).

The view of the CEO therefore can be questioned for at least three reasons. A first question to be raised is whose interest is represented by the view of the CEO? That is, who will be the judge of the effectiveness and the efficiency of strategy execution? Is this the shareholder or are these the stakeholders, as for instance expressed in the concept of the license to operate in the people, profit planet concept? Or is it the CEO in her or his aim of building and maintain a personal reputation? The interests of the CEO and the interest of shareholders or stakeholders are not necessarily aligned. In many jurisdictions, e.g. in Germany, the Netherlands, the United Kingdom, executives by law are supposed to serve in the first place the interests of the corporation, and have a second accountability, being different from the first one, to the general meeting of shareholders. The corporate governance principles of the New York Stock Exchange imply that, be it indirect through observing interests of stakeholders, CEOs are also responsible to contribute to the growth of the US economy (New York Stock Exchange Commission on Corporate Governance, 2010). As we will see in this paper, the balanced scorecard (BSC) served as an intervention in the strategy execution practice of US firms to have CEOs invest more in intangible assets compared to making investments in tangible assets to increase the competitiveness of the US economy. Investments in intangible assets due to accounting rules are

to be expensed at the cost of short-term profits. A second issue with the CEO-perspective is that of the limitations of the concepts, tools and methods as taught in the MBA. Implicitly, through corporate law, property law and labor law, these concepts etc. are based on tangible assets (Strikwerda, 2014). Especially this applies to management accounting and capital allocation. In the modern firm intangible assets are more important for value creation and the value of the firm. The conventional toolbox of the MBA therefore loses its effectiveness, and some tools are even counterproductive in the modern intangible assets-based economy. Of course CEOs claim that they don't apply what has been taught them in business school, but many are through language still trapped in the concepts they have learned at the business school, not to speak of their functional specialists (Kikoski & Kikoski, 2004). This implies that we need to keep in mind that the perspective of the CEO, as claimed by the concept of the MBA, may have foundational weaknesses. A third issue or perspective related to the view of the CEO is that of the need of cognitive framing, abstract thinking, and reconceptualization. Due to technological developments, especially the interrelatedness between digital technology, media, self-imaging, art, literature, etc. industries, business, market, customers, competition, rules change beyond the conventional definitions of market (segments) customers, competition as objects of strategic thinking and analysis. CEOs need to reconceptualize their industries, their business, their business models, their organization and with that the conceptual building blocs of strategic thinking and strategy execution. This implies that the existing endogenic relation between strategic thinking and strategy execution becomes more complex.

Questioning the perspective of the CEO raises the question whether a CEO-independent God-like perspective exists on strategy execution. Such a perspective may be to be found in a theory of the firm, which is the working of a firm. The theory of the firm in academic theory is an abstract economic theory, often more market economy than an operational micro-economic theory, and is not helpful to understand how to run a firm (Strikwerda, 2014). Management theories tend to focus on structure, culture, management processes, capabilities and the

alignment of these with strategy and environment. But alignment in the modern economy and with dynamic capabilities is not a state, but a continuous process of realigning. It is the management process of the resource allocation (and as we will see resource mobilization) that is core to the continuous realignment, especially in terms of allocation efficiency and adaptation efficiency. However, the concept of resource allocation and resource mobilization, core in the economic theory of growth, especially in a dynamic sense, due to dynamic capabilities in the endogenous growth theory, is not core in management theory. Whereas Ronald Coase (1937) explained the existence of the firm in the firm being more efficient in the coordination of economic activities (transactions) compared to the market, in today's economy we might state that the *raison d'être* of firms is being more efficient in the (re)allocation and recombination of resources, especially tacit knowledge to create value. That is, the resource allocation process is a core coordination process, although the few authors writing explicitly on coordination tend to define structure as core in coordination (Jensen & Meckling, 1999; Okhuysen & Bechky, 2009). As Oliver Williamson observed, the firm not only is a production function (as assumed in the theories of Porter), it is also a governance system with an internal capital or resource market (Williamson, 1985, p. 16). This internal capital or resource (especially human capital) market competes with the open market. After World War II due to a combination of factors markets, including the capital market, have become much more efficient. Chandler defines two functions of corporate headquarters, the entrepreneurial function and the administrative function. The latter is about monitoring performance, resource utilization and effectiveness. The entrepreneurial function is about value-creation, to identify opportunities and to allocate resources to pursue those opportunities, that is strategy execution (Chandler, 1996, p. 348). Corporate executives are in competition with the capital market in the allocation of investment capital. So the resource allocation is a critical process.

Because resource allocation, allocation efficiency and as will we see later, resource mobilization are core economic concepts, in this paper the resource allocation process will be

as to be explained
used a reference concept to discuss strategy execution, but keeping in mind that fore reasons that it is a problematic concept. With that the function of this section is to set that reference.

In the practice of business and institutions, core in the execution of strategy, whether this is right or wrong we will discuss, is the resource allocation process, aka capital allocation or budgeting, or the budget process. (Bower, 1986; Robert A. Burgelman, 1983; C. M. Christensen, 1997; Lorange & Vancil, 1977; R.G. McGrath & Macmillan, 2013). Unfortunately the resource allocation process (RAP) in many if not most cases has degenerated into a budget process with budget gaming. A strategy not only is expressed in objectives and choices of markets, but as much it is expressed in investments. These investments, except for the investments in the acquisition of other firms, are to be allocated to divisions, business units, and incorporated in their budgets to be executed. Christensen & Bower have observed that this pattern of resource allocation may heavily influence the types of innovation in strategy execution, in terms of success or failure, but also that the process (process as an multi-level involvement of executives, middle-managers, department managers in developing proposals, evaluating these, allocating investment capital, including all its organizational politics) of resource allocation is inseparable connected to strategy, both in developing a strategy and its execution (C. M. Christensen & Bower, 2005).

On closer inspection it turns out that not only the (political) pattern of resource allocation is decisive for strategy execution, but of more importance are cognitive processes and the nature of the strategic context of a firm (Sull, 2005b).

Resource allocation as strategy execution implicitly is based on the classical decision theory in which decision-making is selecting the most valuable investment alternative from available investment opportunities. The practice of matching available resources to available investment decisions is, dependent on the specific firm, especially the degree of information asymmetry between top-management and lower level management, not so much a top-down decision, it is more an interaction between levels of managers, hence Burgelman's description of the internal selection environment. (Robert A. Burgelman & Siegel, 2008). Bower's bottom-up

resource allocation process, apart from creating commitment, serves to reduce the vertical information asymmetry to improve decision making with respect to resource allocation. But strategy development is precisely about creating new investment opportunities and in the modern economy this is creating investment opportunities beyond existing business models and thus beyond existing dominant logics. The basis of simple decision-theory is a weakness when the resource allocation process is taken too literally.

In the process of formulating a strategy, which in most firms is based on bottom-up initiatives, middle level managers will anticipate the allocation of investment funds as a result of which conceptualizing a new strategy often is an iterated process of resource allocation (Noda & Bower, 1996). This is in itself not necessarily wrong or right, dependent on circumstances, but it illustrates the complicatedness of strategy execution especially including a behavioral or psychological dimension. Because developing a strategy requires to make a best use of all knowledge and information in the organization, and therefore bottom-up initiatives, respectively a formulated strategy necessarily leaves many specifics to be decided at lower levels in the organization, the question is how to guide such initiatives and decisions toward a corporate interest, away from parochial interest, conventions and routines, whilst at the same time making a best use of all available knowledge and ingenuity in the organization. At first sight this dilemma, parochial motivation versus corporate interests, evokes a definition of the problem in terms of behavior of members of the organization, expressed in terms of leadership styles, culture, values, teamwork, incentives, precisely as predicted by the Fundamental Attribution Error from organizational behavior (Noble, 1999). Higgins is an example of a more comprehensive approach of strategy execution in defining an eight-S framework for strategy execution, including behavioral aspects and mentioning the role of budgeting (Higgins, 2005). Such frameworks are by nature more conceptual as opposed to a technical-administrative approach. Conceptual frameworks like Higgins may be helpful to set an agenda, and are attractive to many because these are suggestive, not normative, but such frameworks do not identify necessary technical-

administrative decisions. Ironically this is illustrated by the interpretation of Higgins of the Procter & Gamble case in his article. Compared by the Harvard case on Procter & Gamble Higgins fails to observe the principal nature of P&G's CEO Durk Jager's initiated new organization: a separation of market opportunity management from resource management contradictory to the traditional M-form, and a globally distributed product development. Lafley, Durk Jager's successor, made it work by amongst others, defining complementary performance parameters for the global business units (resource exploitation) and the regional market development organizations (constituting a dual organization), making the first responsible for the second customer experience and the second for the first customer experience, and by organizing the information disembedded from the structure in P&G's global business services (a shared service center), allowing for integrated performance reporting on products independent of the structure, and thus facilitating the cooperation between the GBUs and the MDOs (Rosebeth Moss Kanter & Bird, 2009). Such principal technicalities are missing from Higgin's abstract framework and other abstract academic frameworks or models.

For a long time Bower's *Managing the Resource Allocation Process* used to be the reference for executives how to execute a strategy. Bower's *bottom-up resource allocation process* (Figure 1) is applied in virtual all large organizations, for-profit and not-for-profit, but in most cases not in the way it was intended. And, to the chagrin of Bower, in most cases this bottom-up resource allocation has degenerated into a budget-process. The problems the degenerated budget process induced in firms, especially in the nineties were such that this even resulted in a protest movement, beyond budgeting (Baldwin & Clark, 1994; Pfläging, 2003). This movement however did not produce solutions and seems to be forgotten.

Also from the viewpoint of corporate finance the budget process, or the budget-driven method of strategy execution is seriously questioned, because it results in suboptimal targets and performance (Jensen, 2001, 2003). The emphasis in a budget-driven method for strategy execution was both driven by the growing importance of the capital market and a shift within the

function of management control, with deemphasizing business control en emphasizing financial control and process control.

Although Bower's *bottom-up resource allocation process* still is being applied widely in firms and institutions, by Bower's own words it should not be so, because it is no longer consistent with the nature of the modern, intangible assets-based, firm, respectively with the modern business models or business model innovation as strategy (Bower & Gilbert, 2005a). Nevertheless students of business administration should be familiar with Bower's RAP, simply because it is still practiced (and in 2013 on a conference of management consultants in Lithuania even presented as new, by the strategist of a Dutch multinational) and students should be familiar with its limitations. It is remarkable that in most academic publications on strategy execution no mention is made of Bower's seminal book, despite the fact that the book addresses topics as commitment, bottom-up initiatives, employee involvement, behavioral aspects related to especially new strategies, etc.

In strategy textbooks the chapter on strategy usually emphasize organization forms, culture and strategic change. An exception is Grant whom describes the strategic planning cycle of Shell, be it that this is not a complete description (R. M. Grant, 2003). Johnson *et al.* also describe the strategic planning process of Shell including the role of budgets, but fail to describe the interaction in this process between the global product lines and the national organizations (G. Johnson, Scholes, & Whittington, 2005, p. 570). Johnson *et al.* mention in their book the Bower-Burgelman explanation, which is that strategy develops as the outcome of the resource allocation process. The latter is not a reference to Bower's *bottom-up resource allocation process* in which it is precisely Bower's intent, by using insights from the field of organizational behavior, to avoid as much as possible, that the strategy through an ill conditioned resource allocation process is driven by the interests, risk appetite and escalating commitments of middle level managers. Johnson et al. refer in an endnote to Bower's book, but don't use his insights. In the book *Strategy: Process, Content, Context* there is a chapter on Strategic Change, but strategy execution is

not mentioned (Wit & Meyer, 1998). More elaborated on strategy execution was Ansoff in his *Implanting Strategic Management* (Ansoff, 1984). Ansoff mentions the link between strategic planning and budgeting. But Ansoff is more concerned with a system for strategic planning mainly based on the portfolio concept of strategy and less with a holistic view of running a firm, as is Bower, to implement a strategy. To which is to be added that Michael Porter marginalized Ansoff's concept of strategy and its black-box investment driven system of strategy execution. For Porter corporate strategy was no real strategy and replaced the corporate finance induced portfolio strategy with a concept of strategy focused on competitive value creation on the level of the business (unit). For Porter strategy is business strategy.

This raises the question that if we study strategy execution we need to be clear whether this is about industry-level strategy, corporate strategy, business strategy or functional strategies. Industry-level strategy is about standards, acquisitions, mergers and alliances, creating and maintaining entry- and exit barriers, lobbying as described and theorized in the field of industrial organization (Belleflamme & Peitz, 2010; Illing & Peitz, 2006; Waldman & Jensen, 2001). Due to the legal and regulatory aspects of industry-level, or market power strategy, industry-level strategy is of a private nature, that is the CEO will discuss this with only a very small inner circle. Especially in post-merger integration (PMI) much problems are reported to achieve promised synergies, but most mergers are about reducing overcapacity in the market (Cefis, Grondma, Sabidussi, & Schenk, 2007). Little is published on executing strategy-level execution, which possibly is to be explained because of the variety in activities, court cases, legal procedures, lobbying, standardization, etc. Some consequences of industry-level strategy, e.g. creating an entry-barrier through marketing or branding, will be part of a business strategy in terms of execution, but most likely without explanation of the background. Bower implicitly writes about a combination of corporate strategy and business strategy, corporate strategy implicitly being portfolio strategy. Kaplan & Norton (2004, 2008) also combine corporate strategy and business strategy but their system, being based on intangible assets implying a need for exploiting

synergies, assumes the concept of the integrated firm as opposed to the multi-business firm, but not excluding the latter. Basically three movements are to be observed in the generic concept of strategy, a movement towards industry-level strategy to counter the transparency of markets and the changing power relations at industry level resulting especially from digital technology, a convergence of corporate strategy with business strategy (including a change in the nature of corporate level strategy) and a convergence of the conduct-level of business strategy with operations (deciding product portfolio) with operations as a result of the declining costs of information.

Porter himself did not pay attention in his influential publications on strategy execution. Porter does mention that fit between strategy, technology, systems, processes, products, organization, is superior to both strategy and execution. His assistant and biographer Joan Magretta mentions the importance of strategy execution, but emphasizes that strategy execution does not compensate for an ill conceived strategy (Magretta, 2012, loc 2445).

Porter acknowledged, following Burgelman, Bower and Christensen, that strategy execution is most critical to strategy (Kantola & Seeck, 2010). In 1981 Porter refers to the research examining the social, political and organizational processes by which strategic choices are made, quoting Bower's *Managing the Resource Allocation Process* (M. Porter, 1981). Possibly the fact that Porter did not elaborate on the issue of strategy execution, whilst his books were and are the most influential under academics working on the field of strategy, explains the biased attention under academics for the issue of strategy execution. Another explanation may be that in the business policy school, as opposed to the strategic management school, strategy execution tended to be seen as an extension of budgetary or financial planning (Bower, Bartlett, Uytendaele, & Walton, 1995). In this way it can be understood that when Anthony in 1965 defined the function and field of management control, he defined management control as the function in the firm that was tasked to translate the strategy into task control, that is, the setting

of sub targets, allocation of resources and the attribution of decision rights to lower level management through approved budgets (Anthony & Govindarajan, 1995).

Management control is one of the tasks of the CFO (the other tasks are treasury & finance, financial risk management, etc.) The CFO is a position or title that did not exist when Anthony defined management control in 1965, but since then, as a result of the role of the capital market and the role of accounting rules, became the second powerful C, after the CEO and before the CMO and the COO (Zorn, 2004). With that the finance function gained importance and power, including its control over the budget or resource allocation process. Even prior to that corporate finance redefined what strategy is (Sull, 2005a). Michael Porter responded to this influence of corporate finance on strategy by emphasizing business strategy (creating value by operations) over corporate strategy (distributing value through investments). In academic (research) and in MBA-programs the finance function, in the combination of corporate finance and management accounting is a strong and powerful field separate from strategic management. It is strong in terms of power in accordance with the sub-unit power principle that states that the factor which is most important in the market for the success of the firm should have most power in the internal organization, thus the role of the capital market implies the power of the CFO, and it is powerful in terms of development of concepts (or lack of in view of the changing nature of the firm), theories, methods and accounting standards, has its own journals, executive training etc. The role the field of corporate finance plays in the education, orientation, concept, language of the CFO, implies that the CFO not only views the field of corporate strategy through the lens of corporate finance (as opposed to the resource based view) the CFO is also involved in developing strategy in view of shareholder value, expectations of the capital market, capital budgeting, applying the real option theory to investment projects, valuation of strategic options, etc. (T. E. Copeland, Weston, & Shastri, 2005; Grinblatt & Titman, 2002).

This section on the role of the resource allocation process serves to define a perspective on strategy execution different from a narrow perspective of strategy itself, but also it serves to

define a broader context or system as an object of designing strategy execution, given the earlier described paradigmatic, institutional and conceptual issues..

To achieve the setout objective to provide a deep, cohesive, and especially a more comprehensive overview of theories and function relevant for research on and designing strategy execution this article is structured as follows. We will first describe what we define as the academic school, with its sub schools, for strategy execution. Next we describe in a critical way what could be labeled as the administrative school (Bower, Kaplan & Norton). Next we will bridge these two schools, incorporating new developments like information-based organizations, and discovery driven growth, trial-and-error strategies firms to day deploy to cope with uncertainty, and dynamic complex organizations. We will conclude this article with suggestions for further research and for the innovation of MBA-programs.

3. The academic schools of strategy execution

3.1 Introduction

Whereas the point of view of the administrative school is that of the general manager, the academic schools of strategy execution exists of a multitude of points of view defined by individual academic disciplines, functions or theoretical concepts. An explanation is needed why to group these diverse schools under one label, academic schools What these academic schools have in common is the omission of the resource allocation process, although e.g. the performance school necessarily touches on it. This omission simply reflects the limitations of sociological organization theory, the limitations of the field of management of change (with the exception of Schein (1999) who acknowledges that the way scarce resources are allocated in an organization is one of the embedding mechanisms for changing a culture) and the marginal position of the function of management control in the pedagogical model of the MBA. For that

reason these diverse schools are grouped under the label of academic schools of strategy execution; none of these schools are conceived from the perspective of the general manager. An overview of the academic research on strategy execution was published by Noble, *The Eclectic Roots of Strategy Implementation Research* and by Okumus (Noble, 1999; Okumus, 2003).

The academic schools of strategy execution can be seen defined to exist of the following schools:

- The structure school
- The management of change school
- The performance management school
- The participative or interactive school
- The dynamic view school

3.2 A missing school?

A priori one might expect that academic research on strategy execution is guided from dominant theories of the firm, e.g. grounded in Penrose's *The Theory of the Growth of the Firm*, as we may expect that strategy serves the growth of the firm, especially as in Penrose's theory by a specific combination of resources (Penrose, 2009). Because the nature of the firm due to amongst others the increasing role of intangible assets, open business models, declining costs of information is fundamentally changing, as is underlying the system of Kaplan & Norton, the dynamic reallocation of intangible resources is a major issue (Fandel, Backes-Gellner, Schlüter, & Staufienbiel, 2010). The theory of the firm exists of a number of sub-theories: the resource based view of the firm (RBV) (Penrose, 2009; Rivard, Raymond, & Verreault, 2006), the knowledge based view of the firm (KBV) (Eisenhardt & Santos, 2002; A. Grant, 1997; R. M. Grant, 2006; Nickerson & Zenger, 2004), and the dynamic capabilities view (Anand, Ward, Tatikonda, &

Schilling, 2009; Augier & Teece, 2009; Teece, 2007; Wang & Ahmed, 2007). Williamson's theory of transaction costs economy (TCE) is also to be mentioned, but with a note (Williamson, 1985, 2002). Because of the declining costs of transactions and the changing nature of assets, partly assets becoming more generic, e.g. IT, partly becoming intangible, human capital, information capital and organization capital, the TCE-theory has lost its power to explain organization forms like the H-form, the M-form, etc. Apart from the fact that according to Herbert Simon in the economy of the 21st century no longer structure, that is organization form, is the first parameters of organization design, but the factoring of decision making and the organization of information. The TCE-theory however is powerful in explaining the changing boundaries of the firm; deverticalization, business process outsourcing, open innovation and open business models, increasing the number of variables in defining and executing a strategy.

It can be argued that these theories constituting the theory of the firm are relevant for the formulation of strategy, strategy development and strategy execution, but no research has been identified from these perspectives, other than in the publications general statements are being made like the free flow of knowledge in the organization, and that planning process need to take into account the dynamic capability nature of the resources of the firm. "... dynamic capabilities can be disaggregated into the capacity (1) to sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets" (Teece, 2007). This is basically Porter's definition of strategy but now with dynamism in its resources. Especially the dynamic capabilities view should be by deduction of consequence for both strategies and strategy execution. "The essence of the dynamic capabilities approach is that competitive success arises from the continuous development, alignment, and reconfiguration of firm specific assets" (Augier & Teece, 2009). To which of course must be added 'and a continuous efficient allocation of resources, generic and firm specific to market opportunities'. The dynamic capabilities view implies especially that achieving strategic targets,

financial or non-financial is not sufficient, in the same period new capabilities need to be developed or acquired, to create preparedness, for the period that follows. New capabilities may develop spontaneously, unintended or planned, inside the firm or outside the firm. The tactics of open innovation, business model experimentation, and combining exploitation and exploration, appear to be answers to the phenomenon of dynamic capabilities. Teece pleads for decentralized organizations, in line with the classical economic theory of Hayek but does not demonstrate the issues managers need to be aware of when decentralizing, as is the case in the Burgelman-Bower model. Teece also writes: “An important class of dynamic capabilities emerges around a manager’s ability to override certain ‘dysfunctional’ features of established decision rules and resource allocation processes.” Also Teece states: “the understanding of why and how intangibles are now so critical still remains opaque and is not addressed by orthodox frameworks.” From various publications at the time Teece wrote his article it was very well known that and why intangible assets were most important (Brynjolfsson, Hitt, & Yang, 2002a, 2002b; Knott, Bryce, & Posen, 2003; Nakamura, 2001; O'Donnell et al., 2003). Indeed are intangible assets not part of orthodox MBA-frameworks. But Teece, writing on the resource allocation process, fails to refer to the works of Christensen, Bower, Burgelman and Kaplan & Norton.

Another dimension to the theory of the firm is the institutional dimension. It has been elaborated by Rajan and Zingales that a number of assumptions implicitly underlying the concept of the firm as this came into being around 1900, which constituted the context within which the orthodox concepts of the MBA developed, today no longer hold. Human capital, especially tacit, uncodified knowledge is not the property of the corporation, the legal persona in which the firm is organized, whereas all concepts and tools of the MBA implicitly assume, expressed in the separation of capital and labor, that the corporation is the owner of all of the capital goods the firm thrives on. The boundaries of the firm no longer coincide with the boundaries of physical assets, due to the role of knowledge. Combinatorial innovation implies co-creation with suppliers and or customers, ending the idea of arms-length contracts, another assumption underlying the

traditional concept of the firm. Control by management over (the organization of) the firm can no longer be based on the exclusive right of alienation over resources (Rajan & Zingales, 2000). Control through firm specific idiosyncratic standardization has evaporated due to open standards and industry standards. As a consequence the unit of strategy no longer is a well-delineated black-box natured firm operating through one-off contracts in a market, with labor as a commodity; the strategic nature of the firm is more of a nexus of strategic interest of a multitude of parties. It might be argued that this idea already is contained in the stakeholder approach of strategy (Freeman, 1984). In his *enlightened stakeholder theory* Jensen acknowledges that executives need to take into account the interests of multiple stakeholders to achieve whatever objectives of the firm (Jensen, 2000). Porter's concept of creating *shared value* suggests that the object of strategy, dependent on the firm and specific conditions, might move into a network or (knowledge) ecology in which multiple parties through cooperation create value. Hence the idea of network level strategy, to be found in e.g. the region Eindhoven in the Netherlands, where companies like ASML, DAF, have made certain agreements to have free exchange between their firms of (tacit) knowledge as carried by knowledge workers, whereas Dutch labor law has a non-competition clause allowing employers to block knowledge workers to work for the competition.

The foregoing might also raise the question whether there is or not a relation between the different schools of strategy and the system of strategy execution. To this it must be noted that the different strategy schools, the portfolio school (Ansoff, Henderson, the BCG-matrix), Porter's positioning or competitive school, Porter's five forces school, the resource based school (Collis & Montgomery, 1997), and the dynamic capability school themselves are responses to changes in the economy and technology. The portfolio diversification theory of the sixties was a response to the post World War II recovery and prosperity, the conservatism through returning from diversification and a focus on market share and cash flow, using the BCG share-growth matrix was a response to the stagnation and inflation of the seventies, the financial driven strategies and restructuring of the eighties, and Porter's focus on the value chain and on business

strategy to create competitive value, was a response to the increased foreign competition and globalization of the eighties, the focus on reengineering, on core competences (resource based view) was a response to the rapid and discontinuous economic and political changes of the nineties (Bowman, Singh, & Thomas, 2002). Outsourcing, business model innovation, open innovation, standards and platforms was a response after 2000 on globalization, multilateral trade agreements, the digital technology, deregulation, increasing market transparency and increasing volatility (Eisenhardt, 2002). The organization of firms changed in terms of restructuring, deverticalization, business process outsourcing, but less to in terms of systems for management accounting, management control, that is less so in the management processes. That is, there is a weak link between changes in the nature of strategy and changes in management processes. Partly this is due because there is no link between economic theory and accounting theory (Godfrey, Hodgson, Holmes, & Tarca, 2006), and, except for Kaplan & Norton, there is no link between economic theory and the theory underlying management control. The various schools in strategy did not provide this needed link, even not Besanko *et al.*'s *Economics of Strategy*. Why? Perhaps the reason is: "... many strategists, especially academics who develop the theory, typically don't want to get their hands dirty with the myriad of details necessary for successful execution. As a result a barrier exists between strategists and operational executives" (Harreld, O'Reilly, & Tushman, 2007). In all fairness quite some executives are to blame as well, for not thinking through the implications of fundamental economic changes, the role of intangible assets, the declining costs of information, for their organizations, their firms are not *global frontier firms* in terms of efficiency.

3.3 The structure school

The structure school focuses on the question what changes in the structure of the organization need to be accomplished to execute a (new) strategy. This sub school has its origins in Chandler's quip "Structure follows strategy ... but the market is the common denominator"

(Besanko, Dranove, Shanley, & Schaefer, 2004, p. 555; Chandler, 1962). Examples of this sub school are Hrebiniak & Joyce, 1984, section II of (Mintzberg & Quinn, 1996) and Chapter 16 of (Besanko et al., 2004). Textbooks on strategy also emphasize choice of structure as a method of strategy implementation. Grant places the relation between strategy and structure within the concept of organization design (R. M. Grant, 2002, p. 519; 2013, p. 134). Grant emphasizes design of structure, including projects across divisions, but Grant also emphasizes alignment mechanisms like remuneration, performance management and mentions culture as an integrating device (2013:138). Miles & Snow emphasize another aspect of structure, the fit between the structure of the market and the structure of the organization of the firm as factor for success (fit-to-market).

Mintzberg criticized the idea that structure follows strategy, he describes the relation between strategy and structure as 'like one foot follows the other' (Mintzberg, Ahlstrand, & Lampel, 1998). Which in a way is confirmed by Hammond, who explains that and how the structure of the organization may determine the formulation of a strategy (Hammond, 1994). To which other authors add that the strategy should be aligned with the structure of the firm in order the strategy to be successful (Brickley, Smith, & Zimmerman, 2003; Goold & Campbell, 2002; Olson, Slater, & Hult, 2005).

The sub school of structure as strategy execution in a broader sense also could be labeled organization design, but the issue with the field of organization design is that this itself is diverse by focus, theories, objectives and methods, not providing a cohesive body of concepts, theories or methods to inform practitioner's decisions. At the same time it is to be noted that the relation between product or proposition architecture, the processes to deliver these propositions, the technique of modularity, imply a more specific relation between (new) products and organization design, except for the more generic platforms (which also need a deliberate design in view of absorbing uncertainties). In a way this is underlying the concept of the strategy map, as well the

concept of business model, but it requires some expertise in operations management, management accounting and IT-governance to understand these relations.

In the school of structure the issue of project management and project program management (PPM) to implement strategic objectives can be included. The introduction of projects or portfolio of projects implies a change in the structure of the internal organization. In the case these projects are not stand alone but require (human) resources from business units, divisions and shared service centers, as in the case of strategic themes a priori coordination of deployment of resources is needed through a redesigned resource allocation process. Many firms however still have a bias on structure to solve problems and overlook the role of the resource allocation process.

It might be considered to include in the structure view on strategy implementation organization innovation, but organization innovation will be dealt with in the fifth sub school.

The sub school of structure as strategy execution is to be questioned. Structure, due to the declining costs of information and the increasing role of human capital, becomes less important in the administration and economic workings of a firm, compared to the growth in importance of properly defined objectives (aka factoring of decision making), the partition and attribution of decision rights and availability and access to information (Neilson, Martin, & Powers, 2008; Simon, 1997). Neilson *at al.* state: "When a company fails to execute its strategy, the first thing managers often think to do is restructure. But our research shows that the fundamentals of good execution start with clarifying decision rights and making sure information flows where it needs to go. If you get those right, the correct structure and motivators often become obvious". Structure does not disappear, but across division processes, projects and strategic themes become more important as a consequence of the role of *human capital* in achieving targets and having a best return on investments in human capital. This development extends the issue of organization design into management accounting systems and IT-governance

and shifts the Chandlerian ‘structure follows strategy’ into ‘process follows proposition’ (M. W. Johnson, Christensen, & Kagermann, 2008; Kaplan & Norton, 2004; Strikwerda, 2012).

The reconfiguration of especially tacit knowledge or human capital is achieved through cross divisional projects, processes and strategic themes, as additional dimensions for planning, reporting and performance evaluation additional to the existing dimension of divisions, business units and resource departments, resulting in the multidimensional organization (Campbell & Strikwerda, 2013; Strikwerda & Stoelhorst, 2009). Many label the introduction of projects, processes and such as a change of structure of the organization and in a way it is. The confusing element however is that the original structure or divisions, business units, etc. does not change in terms of resource configuration, but introducing cross-divisional projects, end-to-end processes, strategic themes as accountable entities in addition to the division, are beyond the traditional way to specify structure. E.g. introducing corporate account management, as IBM did in in the nineties, does not change the structure of countries and global divisions, but it changed the primary profit center to be the customer, no longer the product division or the country organization. Many firms wrestle with the coordination between projects and the standing organization, especially when knowledge workers need to allocate their time between the division and the project. Too often the emphasis by management is on teamwork, cooperation, values, culture, whereas the coordination between projects, processes is to be achieved through a proper redesigned resource allocation process. This is acknowledged and practiced in a number of firms, as documented by Kaplan & Norton, but it is still a blind spot in accounting theory, as it is with a number of CFOs/controllers, partially also because their information systems are based on accountability information instead on management information. More in general it is understandable that ‘people seek comfort in structure’, because it represents thousands of years of Roman-Weberian thinking on organization, and it takes a certain intellectual effort to see that things are different in these days, perhaps even more, the change towards processes and projects over traditional structure requires workers to be focused on performance, not on position.

3.4 The management of change school

A second point of view in the academic school of strategy execution is that of strategy execution as management of change. A representative of this school is e.g. Argyris with his book *Strategy, Change and Defensive Routines* (Argyris, 1985) as is Pettigrew (Pettigrew, 1988; Whip & Pettigrew, 1992). This school states that strategy formation is concerned with the realization of change (Wit & Meyer, 1998, p. 237). What is a strategy if it does not imply changes in the organization? This school asks questions like whether strategic changes should incrementally grow from the existing situation or whether there should be revolutionary change, which is also related to the issue of path dependency and commitment (Ghemawat, 1991). Johnson *et al.* place the management of strategic change in the context of the relation between strategy and structure (including outsourcing and alliances) and the relationship between strategy and the resources people, information, finance and technology (G. Johnson et al., 2005, Part IV). This school addresses also questions whether which changes should be implemented in order to have the organization generate a (revolutionary) new strategy (in view of Hammond's agenda theory, which states that the structure of the organization defines the agenda of the firm) and, given a strategy that implies changes in the organization, how to implement these changes. For the latter authors build on the traditional field of management of change or planned change (Bennis, Benne, & Chin, 1962). Garud & Van de Ven take management of change further by more explicitly basing this on strategy by introducing the distinction between unit of change and mode of change, creating with that a framework for multiple process theories of organization development and change (Garud & Van de Ven, 2002). However the field of management of change itself is diverse and is questioned in terms of validity and effectiveness (By, 2005). The view on strategy implementation as management of change includes topics as developing teamwork, pro-active behavior, self-coordination, and may include programs for culture change

and developing lower level leadership. To this is to be added that the traditional management of change, being more aimed at individuals and on overcoming resistance to change, is being replaced by systemic change, which is creating a new context to facilitate new behavior.

3.5 The performance management school

A third point of view for strategy execution is (strategic) performance management (Verweire & van den Berghe, 2004). In this view the idea is that to implement a strategy the strategy needs to be translated into performance targets, financial and non-financial for divisions, business units, product managers, market managers, project managers etc. The most extensive text for this is probably Robert Simons *Performance Measurement & Control Systems for Implementing Strategy* (Simons, 2000). Another example of this school is Merchant with extensive attention for financial responsibility centers, planning and budgeting, and incentive systems (Merchant & Van der Stede, 2012, chapters 7, 8 and 9). Within this point of view we also see the interpretation of the Balanced Scorecard as a performance management tool.

The relation between strategy and performance has two sub schools. The first is the *corporate strategy model*. This sub school states that the ambitions and objectives to be achieved are a result from the achievable, dynamic capabilities and the resources of the firm. Of course, targets will be set stretched, but essentially based on the (dynamic) capabilities of the firm, the opportunities in the market, risk appetite and the social responsibility of the firm (Bower, 1986, pp. 282-285). This implies that there is an iterative process between developing strategic targets from within the organization and translating agreed strategic targets into sub targets within the organization. This sub school also implies that there is a participative process from within the organization to develop strategic targets (Gimbert, Bisbe, & Mendoza, 2010). Translating strategic objectives in performance management than is not simply a top-down process, but an

iterative process, not unlike the bottom-up resource allocation process defined by Bower, including the problems of this method described before.

The second sub school in the relation between performance management and strategy is *corporate financial management* (Bettis, 1983; Bower, 1986, pp. 282-285). In this sub school strategy is about maximizing the return of investments in the firm: “Yours may be a fascinating business, but your role is to generate earnings.” The issue in this second sub school is how to decide what a stretching but achievable return on investment is. Not only middle level managers may tend to be satisficers, executives as well, that is the agency costs between the different levels, shareholders, executives and middle managers become part of the equation (Arrow, 1991). Due to the information asymmetry underlying agency costs it may happen that financial targets are set on basis of expectations and industry or peer group benchmarks in the capital market, and on basis of expected bonuses imposed on the organization by the CEO and CFO (Fuller & Jensen, 2002). Translating such imposed financial targets into the (financial) sub targets of divisions, business units and departments is a different process compared to that in the *corporate strategy model*. Especially in the case there is a strong relation with incentives, bonuses, it is reported that top-down translated financial targets may evoke perverse behavior (Adler, 2011; Ferreira & Otley, 2009; Jensen, 2004; Micheli & Manzoni, 2010).

For many the Balanced Scorecard is an alternative to especially financial performance management as a tool to implement strategy (Atkinson, 2006; Epstein & Manzoni, 1998; Kaplan & Norton, 2001; Nørreklit, 2000, 2003a, 2003b). The balanced scorecard is presented, interpreted and used in many ways, including replacing the one dimensional financial performance with multidimensional performance measurements as well as modifying performance management with a combination of input or leading parameters and output or lagging parameters.

Another issue with performance management and strategy execution is integrated reporting, that is integrating sustainability and corporate responsibility into strategy and subsequently into performance management (Eccles, Cheng, & Saltzman, 2010; M. E. Porter &

Kramer, 2006). This requires the formulation of the objective function at lower levels in the organization in terms of a multi-objective stated objective function (Dyer, Fishburn, Steuer, Wallenius, & Zionts, 1992; Yoon & Hwang, 1995). That is the objective function needs to specify what to maximize, e.g. ROI and or market share, what to minimize, emission of hazardous materials and waste, costs, and under which constraints, e.g. maintaining the book value of equipment (through proper maintenance) and growing the value of human capital (by investing in firm specific human capital through expenses on training and development). A multi-objective multi-criteria objective function reduces perverse behavior as middle managers have to take into account a holistic view on their business and it requires the application of the techniques of operations research / linear programming, which will curb number gaming and behavioral displacement.

3.6 The participative or interactive school

As part of theories on leadership, motivation based on involvement, knowledge theory, etc. a number of authors, often with behavioral science backgrounds, promote the involvement of employees in all ranks of the organization in developing strategies and in implementing these. Especially interactive goal setting, originating in Drucker's MBO, is a popular line of thinking (Barney & Ouchi, 1986; Richard T. Pascale, 1999; Richard T. Pascale & Athos, 1981; Rollinson & Broadfield, 2002, p. 460). Partly this school find its origins in complexity thinking, the idea of adaptive system with decentralized sensing, as promoted by Weick, but basically going back to Hayek's economic theory and Simon's concept of complex organizations (Hayek, 1945; Simon, 1962; Weick, 1995). The participative or interactive school understandably focuses on involvement, the role of individuals and teams, values, culture, style of decision making, style of leadership, but in doing so neglects the implications of the Interactive Perspective Model for the required systemic context and alike the role of the nature of the strategic context. Because these

approaches are not or only weakly linked to the process of resource allocation, or define this as the power system, and alike the required changes in the system of internal governance, its effectiveness, in spite of its good intentions, are limited, comparable to culture programs. Well intended as they are, these approaches are somewhat naïve in the context of modern developments in technology, society, industries, as e.g. in the case of the HBR-article *How to Have an Honest Conversation About Your Business Strategy* (Beer & Eisenstadt, 2004).

In this school we can also define the involvement of third parties in developing and implementing a strategy, especially in the case of co-creation (C. K. Prahalad & Krishnan, 2008; C.K. Prahalad & Ramaswamy, 2004). But see for co-creation also the next section. A more specific form of involvement of third parties is through the concept of architecture and modular organization and outsourcing. ASML, the Dutch lithography equipment firm is an example that not only the production of modules is outsourced, but also its innovation, including sharing of information between parties, thus creating and operating a network organization, including an orchestrated network of involvement in thinking through (bottom-up) the execution of ASML's equipment strategy (Chuma, 2006). In the case of architecture and modular organization it is also well known that the manufacturers of specific modules try to reverse the power relations and try to define powerful modules in the architecture from their own strategic perspective (Yoffie, 1997). This in its turn forces the owner of a product architecture to think about the power strategy with respect to the architecture, to have access to the best knowledge in the market for a product whilst remaining in control over the architecture (Prencipe, 2003).

3.7 A dynamic view on strategy execution

A fifth point of view, developing, is that strategic thinking, strategic planning and strategy execution do not constitute a linear sequential process with clearly distinct phases, but is more to

be seen as a continuous multilevel set of parallel, mutually influencing processes. We might call this the dynamic view on strategy execution. This is to say that due to a number of developments in the economy the nature of strategy itself is changing (Eisenhardt, 2002). This fifth view has its grounds in the acknowledgment of a dynamic complex economy, in which, at least in a number of industries, long-term planning and year budgets have a too low frequency to answer new opportunities and new possibilities. This view is also based on the concept of knowledge governance, that interaction is needed between knowledge workers with personal, difficult to codify knowledge (not transactions) in order to generate (combinatorial) innovation, often including interaction with suppliers and customers (Doz, 2005; Foss & Michailova, 2009; Jensen, 1998; C. K. Prahalad & Krishnan, 2008; C.K. Prahalad & Ramaswamy, 2004). Such interactions are to be organized through the concept of organized complexity, in the sense of being facilitated, but not to be planned in the sense of the traditional strategic planning (Hidalgo & Hausmann, 2009). The concept of organized complexity is an organizational answer to McGrath's concept of discovery driven planning as this came en vogue in the nineties in response to the increasing complexity and difficulty to forecast market developments (Rita Gunther McGrath, 1999). Typical for this point of view is to be explicit on assumptions underlying strategies, that is managing the assumptions-to-knowledge ratio (Martin, 2014; R.G. McGrath & Macmillan, 2013). Although it must be acknowledged that this is not completely new, Abell already explained the need for strategic control or premise control in executing a strategy (Abell, 1993). In the period of the nineties the uncertainty of markets and the need to value investment projects in view of that uncertainty expressed itself in a renewed interests in the real option theory dating from the sixties (Bowman & Moskowitz, 2001; T. Copeland & Tufano, 2004; Rita Gunther McGrath & Nerkar, 2004; Smit & Ankum, 1993). Technological developments in combination with an increased level of process specifications due to process-re-engineering and TQM, created new options for designing products, processes, organizations in relations to market uncertainty and finance and investment strategies. Especially the concept of

modularity of products, processes and organization relates to the real option technique in corporate finance, offering a method of balancing uncertainty and capital intensity (K. Clark & Baldwin, 2001). This is amongst others applied in the car industry (Takeishi & Fujimoto, 2003).

Due to the declining costs of coordination within the firm and the application of process management, including TQM, more processes not only in operations, but also in the supporting functions, accounting, HR, IT, have become more generic, that is can be applied for a broader range of products, services and markets, as a result of which the concept of the vertical and functional integrated division and thus the M-form transforms into the platform organization (Alstynne, Parker, & Choudary, 2016; Ciborra, 1996; Imai, 2000). The concept of platform enables new types of strategies but also implies new processes of strategy execution, especially the possibility to combine agility and stability. This is to be found in e.g. business model experiments (Davenport, 2009) and in trial-and-error as tactics to both develop and execute strategy (Manzi, 2012). The concept of the platform organization is itself an issue of corporate strategy, creating an infrastructure with a higher capability of a range of business strategies, of which the execution is primarily, starting from the customer value proposition, through processes.

Manzi defines three types of experiments in strategy execution (Manzi, 2012, p. 161). A first type of experiment allows for better precision around tactical implementation of a defined strategy, e.g. through the use of feedback data. A second type of experiment provides feedback on the performance of a strategy, looking for cause-effect relations at the level of assumptions (not operations as with the first type of experiments) including identifying alternatives in case of fundamental changes in the environment other than foreseen or assumed. A third type of experiment is aimed at discovering how the organization (that is individuals, departments, teams), of a usually larger organization, responds to a new strategy, in terms of interpretation, generating initiatives, execution, and especially learning processes and developing new capabilities.

Experiments however require innovative organization forms which only scantily, in a narrative style, but correctly, are described by e.g. Kanter. These organization forms may have

traditional structures at first sight, but at closer inspection it turns out that the function of these structures are reduced to resource configuration and the deployment of these resources is controlled by a clear guiding system (mission, values, a simple strategy, an example of this is Netflix), tools (facilitating knowledge workers in exploration, exploitation, innovation, self-organization), and a platform providing access to information, providing fast feedback information and in which compliance is codified, thus absorbing the complexity of the regulatory environment (Figure 5). In such a context tactics as discovery driven growth is possible, scrum, experimenting, etc. This fifth school of strategy execution includes open innovation and open business models (Chesbrough, Vanhaverbeke, & West, 2006; J. F. Christensen, Olesen, & Kjær, 2005). With that it also includes co-creation, using a knowledge ecology, etc. Whereas the viewpoint of structure in strategy execution focuses on alignment of the structure to strategy, this fifth perspective focuses on preparedness of the whole organization to possible new opportunities and new strategies.

4. The administrative school of strategy execution

4.1 Bower's bottom-up resource allocation process

The administrative school of business administration, including strategy execution, especially from the perspective of academic theory, tends to be seen as a set of folk wisdom or proverbs (Simon, 1946). “The administrative perspective is manager friendly, but it needs to validate its frameworks” (Chakravarthy & White, 2002, p. 202). The administrative school is closest in description to what executives and managers do, based on what often seem to be rules of thumb or heuristics (Artinger, Petersen, Gigerenzer, & Weibler, 2015). Such heuristics usually are based on experience without rigorous academic validation, but those using such heuristics see them as valid based on personal successful experience or example. Such heuristics often also

serve to simplify or to reduce a possible complexity. As such these heuristics can be described as dominant logics as these developed through reinforcement based on successful experience. As a consequence the underlying assumptions of administrative practices are not always explicit, and as a result their limitations in terms of validity and applicability, especially to new situations, are not explicit either. Sometimes this problem of limitations is solved through variation and experimentation; sometimes sticking to a once helpful heuristic will create problems or worse. This is the judgmental lens through which we will discuss the administrative school of strategy execution.

In 1965 Anthony published his textbook on management control, its latest, 12th edition was published in 2006. Anthony defines: *Management control is the process by which managers influence other members of the organization to implement the organization's strategies* (Anthony & Govindarajan, 1995, p. 8). In a diagram Anthony places management control as the relation between strategy formulation and task control (Figure 1).

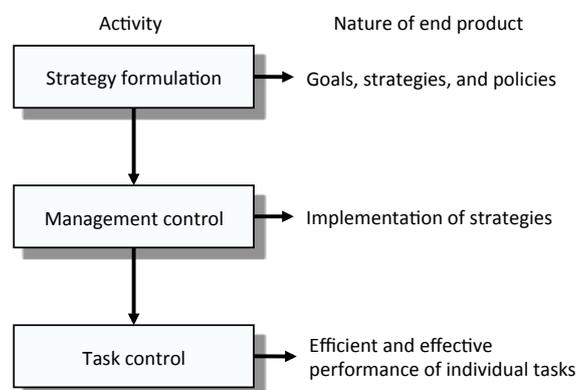


Figure 1. Anthony's original definition of management control as the system for strategy execution (Anthony & Govindarajan, 1995, p. 9).

The language of the first edition was in phrases like responsibility accounting, expense centers, profit-centers, investment centers transfer prices, discretionary expenses, and budgets. In the eighth edition there is mentioning of behavioral aspects and as implementations mechanisms

are mentioned management controls, organization structure, human resource management and culture. The behavioral aspects are dealt with in a scant, superficial way with no reference to original texts, theories or models from the field of organizational behavior. Anthony's textbook on management control is one of the three standard textbooks, together with Merchant's *Management control systems* and Simons' *Performance Management & Control Systems for Implementing Strategy* used in the education of controllers and future CFOs (Merchant & Van der Stede, 2012; Simons, 2000). Core of these books is (advanced) management accounting, through budgeting and performance management. That is to say, the original intent of management control, to be the system through which to implement a strategy, has narrowed to management accounting, performance management and budgeting.

In 1970 Joseph Bower published his *Managing the Resource Allocation Process* of which an extended edition was published in 1986 (Bower, 1986). Also in 1970 Geert Hofstede, who would become famous for his *Culture's Consequences* (1980), published his *The game of budget control*, which is about the behavior of middle managers in setting budgets to execute the strategy (G.H. Hofstede, 1970). In his book Joseph Bower, based on Drucker's concept of managing by objectives (MBO), formulated his bottom-up resource allocation process. Apart from building on Drucker's MBO, in a more fundamental way Bower's bottom-up resource allocation process was based on the Carnegie School bottom-up problem solving perspective, based on Herbert Simon's concept of complex organization and loose programming (Noda & Bower, 1996). A graphical representation of Bower's bottom-up resource allocation process is presented in Figure 2.

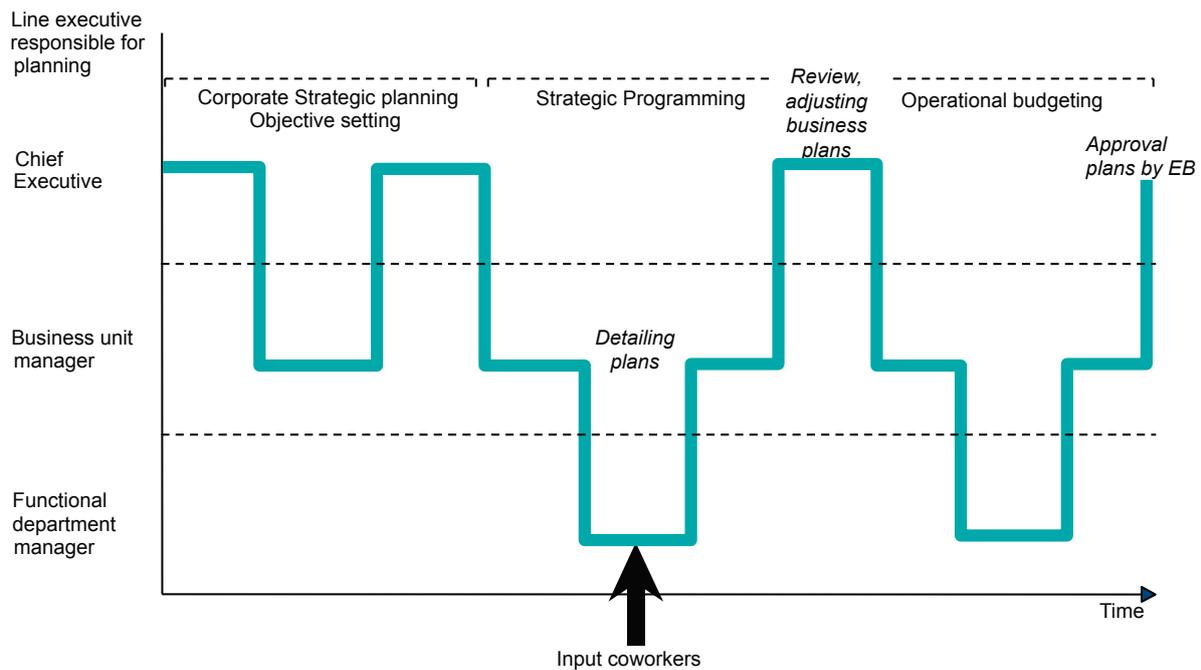


Figure 2. The graphical representation of Bower's bottom-up resource allocation process as system for strategy execution. The graphic as presented is based on (Merchant & Van der Stede, 2003, p. 304) and (Lorange & Vancil, 1977). In his edition of 2012 Merchant has omitted this figure, but in words the description of this process is still in that edition.

Bower's process is based on the idea that through a combination of top-down general strategic guidelines and objectives, and bottom-up initiatives a best use will be made of available knowledge and ingenuity (human capital) in the organization to develop a strategy, and also that making use of bottom-up initiatives will increase the commitments of lower level managers to strategic objectives. That in its turn would result in a most efficient allocation of available investment capital over available investment projects and thus a highest attainable performance of the firm. In this we have to take into account that when Bower for the first time elaborated his bottom-up resource allocation process it was a period in which much planning was and could be linear extrapolation, corporate finance and portfolio theory were not yet dominant, and there was a somewhat complacent behavior by American CEOs (Donaldson, 1994; Jensen, 1993). Hofstede's *Budget gaming* suggests that at that time there was also awareness of behavioral aspects in budgeting, especially that middle level managers were not so much interested in the corporate

strategy, but ^more in acquiring as much as possible resources from corporate headquarters for their own division and developed tactics in the resource allocation process to achieve this. The writings of Bower demonstrate that he was very much aware of this tactical behavior by middle managers, and even more, he elaborated how to guide required behavior, by setting a proper structural or systemic context for those managers (Bower, 2000).

In 1983 Burgelman published his Model of the Interaction of Strategic Behavior, Corporate Context and the Concept of Strategy, in which he reconciled ‘structure follows strategy’ and ‘strategy follows structure’ (Robert A. Burgelman, 1983). More specifically Burgelman added the nature of the *strategic context* as a variable determining the process of generating bottom-up initiatives. The strategic context describes whether the nature of a new strategy is incremental or disruptive, the expectations of shareholders, the role of the capital market in setting a strategy, etc. The strategic context also specifies the nature of a corporation, whether it runs a related portfolio or businesses or an unrelated portfolio of business, and related to that whether the style of headquarters is more strategic planning, strategic control or financial control (Chandler, 1996; Goold & Campbell, 1987). Whether a strategy is about disruption or sustaining technologies defines to a large extent the effectiveness of a bottom-up resource allocation process (C. Gilbert & Bower, 2002). Combined with Bower’s model this produced the Bower-Burgelman (B-B) process model of strategy development, including the process of strategy execution in a large complex firm. In this model it is acknowledged that the bottom-up process, for reasons explained below, cannot be left to its own workings completely, but that top managers need to guide this process by setting the structural- or systemic context to guide bottom-up initiatives into a coherent corporate strategy, as suggested by the Harvard top-down administrative perspective (Noda & Bower, 1996).

It must be remarked that the resource allocation process cum system for strategy execution as depicted in Figure 2 assumed a multi unit-organization or multi-business firm, e.g. a

multidivisional organization, each self-contained organized, no synergies to be exploited, no corporate account management or across division integrating projects. The model also assumes that a strategy to be implemented is not about responses to disruptive technologies, because the existing dominant logics of middle-managers in such cases tend to perceive this as a threat, resulting in defensive investments which cannot be effective (C. Gilbert & Bower, 2002). The model also assumes that the strategy does not imply the need for exiting one or more businesses of a multi-business firm, because middle managers will not be inclined to eliminate their own business (unless the exit is a buy-out or a take-over with benefits for themselves). Also the bottom-up resource allocation process may create problems in case there is a linking-pin structure between headquarters and divisions. Many examples exist of governance overhang, this is the phenomenon that an initiative by the CEO to establish a new business, because it does not fit within the business scope of existing divisions and or not in the business logic of the existing business, and divisional managers having a say in the resource allocation, the initiative was killed by the division managers for reasons of fear of missing resources for their own division and or an impairment of their personal power (Jensen, 1993). Bower's bottom-up resource allocation process assumes tangible assets being dominant in the economic model of the firm. Bower's bottom-up resource allocation process is based on the concept of translating corporate strategy into strategies of business units through a process or system of allocation of corporate resources (Simons, 2000, p. 17).

In some multinational firms, e.g. Shell and Cargill, which have global product lines as primary planning entities, being virtual but accountable entities, to implement the corporate strategy and country organizations hosting the actual operations and investments and constituting the legal organization, a more complicated process is in place. The general working in these MNC-cases is that first the corporate strategy is translated in objectives and constraints for the global product lines, who will translate this into and discuss this with the country organizations for operational planning and investments, agreeing temporary service level agreements, next step

will be a consolidation of the plans of the global business lines and the country operations, which will result in a number of conflicts with respect to capacities, investments, financial criteria etc. These conflicts then will be solved by the Executive Committee, which includes the executive board, by adjusting targets and proposed budgets, to optimize the achievement of the strategy, by which the temporary SLAs between the global product lines and the national organizations are commuted into confirmed SLAs.

A comparable type of resource allocation process may be needed in the case of shared service centers, dependent on the role in the value creation for customers, cost dynamics and variability in demand (Strikwerda, 2010). More in general the issue is that when a different operation model is adopted by a firm, e.g. corporate account management, shared service centers, a platform organization, it may be needed to redesign the resource allocation process away from that as depicted in Figure 2. From research on shared service centers it is known that such a redesign of the resource allocation process not always happens or is done in a suboptimal way (Strikwerda, 2003). An explanation for this is that introducing a new organization form, what the introduction of shared service centers implies, is defined in structure, not in processes. A second explanation is that many executives, including CFOs and controllers tend to overlook the critical role of the resource allocation process in administrating a firm, as their focus is on managers of e.g. division as individuals having a position (the effect of the Fundamental Attribution Error). A third explanation of the failure to redesign of the resource allocation process is that the finance function has let it degenerated into a budget process, with a focus on numbers and cost allocation, instead of ex-ante coordination.

In the administrative school the budget process is not simply tasked to implement a strategy. The functions of the resource allocation process are (Merchant & Van der Stede, 2003):

1. *Prévoyer*, to force lower level managers to think about the future, possible chances and events and how to prepare for that, to shape the future, to be pro-active;

2. To develop an emotional commitment to the strategic goals and objectives, financial and non-financial;
3. To overcome information asymmetry in the organization;
4. To achieve allocation efficiency of available investment funds with investment opportunities;
5. To establish an ex-ante coordination of the activities of the firm;
6. To achieve learning and development that by participating the resource allocation process managers learn to see themselves in the larger picture of the firm, learn to understand the working of the business model and thus learn what contribution they can initiate and deliver;
7. To achieve motivation, that managers learn which achievements and contribution will deliver them which financial and non-financial rewards and recognition.

Founding himself solidly on insights from the field of organizational behavior Bower was very much aware that the actual behavior of especially middle level managers and the levels of managers below that not necessarily are according to the six intentions listed before, but are determined by a complex of factors, summarized under the heading of structural or systemic context (in this paper we prefer for reasons that will become clear, systemic context). Bower uses the Interactionist Perspective Model of the field of organizational behavior to facilitate behavior as required by new strategies (Greenberg, 2010, p. 70). The Interactionist Perspective Model states that the actual behavior, this includes initiatives, of individuals results from the interaction of context and personal attributes, inherited and learned, and that in most situation for most individuals the context is of greater influence on behavior (including the nature of initiatives) as are personal attributes (Pfeffer & Sutton, 2006). Be it on a more intuitive basis, this insight is also to be found in management classics like Chester Barnard's *The Function of the Executive* and Alfred Sloan' *My Years with General Motors* (Barnard, 1948; Sloan, 1962/1986). Related to the

Interactionist Perspective is the Fundamental Attribution Error, which states that we tend to attribute the behavior of others (especially in case of malperformance) to their disposition, we tend to exaggerate the disposition and personality of the individual in case of mal-performance and tend to ignore the role of context in that behavior (Huczynski & Buchanan, 2007, p. 226). As a consequence management needs to acknowledge that that the initiatives generated bottom-up to detail a top-down set strategic guide line will be more determined by aspects like career paths and career prospects, personal bonuses and personal status, structure, available information, values, culture, the system of performance measurement and assessment, escalating commitments, etc. as these initiatives will be determined by the content of a new strategy. Therefore Bower assumes that before communicating the direction and intention of a new strategy, first the new strategy is to be translated into required changes in the elements mentioned, together labeled as the systemic context, to facilitate required new behavior (Bower, 2000, p. 87). Bower, typical for the administrative school, does not write in generic phrases like culture, but is specific about changes in the systemic context, e.g. about changes in the reward system, or making the customer the profit center instead of the product, in the case of the need of exploiting synergies across division bonuses are to be based on corporate performance, not on unit performance (Bower, 2003; Galbraith, 2005). Managers failing to understand this aspect of behavior and strategy execution are those that complain 'culture eats strategy by breakfast'.

4.2 Cognitive Framing

Another dimension to Bower's bottom-up resource allocation process is cognitive framing (C. G. Gilbert, 2005b). Those asked to generate business proposals to both elaborate and to implement a strategy need to interpret both the corporate level defined strategic direction and they need to interpret technological, market and other developments. In this interpretation scripts of individuals play an important role (Argyris, 2000, p. 54). New situations tend to be

interpreted in terms of existing trends; no meaningful action is possible for most people without an internally consistent script. Especially in disruptive times existing scripts not always have the capability to provide a proper understanding of new opportunities, new rules of the game, or the implications of new technologies. New scripts, new understanding of industries, business, markets, customers may be needed. At face value those involved acknowledge this, simply because of the many popular publications, news feeds, etc. on innovation and on thinking out of the box. However taken to their consequences in required new organization forms, and especially in a new allocation of resources, the difference becomes clear between talking about changes resulting from e.g. digitalization, and developing and adopting a or multiple, new scripts and act accordingly in setting targets and allocating resources (C. Gilbert & Bower, 2002). Hence the role of framing in developing new strategies, that is a process of abstract thinking identifying new dimensions in consumer needs, interpretation and selection (C. G. Gilbert, 2005b). The question to be asked is whether in any bottom-up resource allocation process, especially in the phase of developing new initiatives, conditions are in place which facilitate the reconceptualization of markets, respectively whether corporate management is receptive for this.

Even in the absence of a need for framing the process of interpretation of data on new developments is subject to multiple cognitive psychological processes, e.g. the confirmation bias, belief conservation, etc. (Bazerman & Moore, 2009; March, 1991). In cybernetic terms, producing good quality eidetic information, which is an adequate, fruitful interpretation of (external) developments is far a more difficult process, as is the collection of data (Sutcliffe & Weber, 2003). More specific in the selection and interpretation of data the dominant logic of those tasked to generate proposals may have a strong influence on interpreting new strategic directions and information on new developments in the environment (Bettis & Prahalad, 1995; C.K. Prahalad & Bettis, 1996). The phenomenon of dominant logic is not only an individual attribute, but also individual organizations, especially as the result of success may also develop a dominant logic, which is then codified in systems, processes, heuristics, choice of parameters, language,

culture, etc. (C. K. Prahalad & Krishnan, 2008, p. 149). A dominant logic is to a certain degree necessary for success, in order to have focus, but it also may become a lens through which new data is interpreted and may result in an inability to see new opportunities and thus an inability to build new business. Especially digitalization changes what certain products or business are at a more conceptual level, the nature of a newspaper, the nature of photography to mention a few examples. Business needed to be reconceptualized and will need to be reconceptualized for the time being, this is an intellectual process and is not by automatically, without additional conditions, produced by a bottom-up process of idea generation (C. G. Gilbert, 2005a). Undoubtedly this will change over time, dependent on how MBA-education develops, through concept like e.g. business experimentations, but it illustrates that the phrase ‘resource allocation’ has become somewhat misleading, without reconceptualization of businesses or markets, without cognitive framing no efficient resource allocation is possible.

The issue of cognitive framing also demonstrates that one of the original purposes of Bower’s bottom-up resource allocation process, reducing information asymmetry in the organization, which in today’s firms is largely eliminated by organizing data disembedded from the structure, is replaced by the issue of the capability of sensing and sense making, and the capability of reconceptualizing markets and business. These capabilities due to markets dynamics, market specificity and scarcity of attention no longer can only be a corporate headquarters task, these tasks need to be organized distributed in the organization. No research could be identified clarifying how this develops in practice. Economic research suggests that CEOs having the capability of reinterpreting or reconceptualizing situations, industries, markets are more successful in defining effective new strategies compared to those who don’t or cannot (C. E. Helfat & Peteraf, 2009; Constance E. Helfat & Peteraf, 2015; Phelps, 2013).

4.3 The end of Bower's bottom-up resource allocation process

Bower's bottom-up resource allocation process was quoted in books like that of Merchant and that of Lorange & Vancil, but without the prescriptions that and how to set the right conditions in the organization to facilitate behavior and cognitive framing by lower level managers as needed to effectuate the new strategy, apart from some superficial references to culture. In addition to this deficiency the idea of management control, due to the increased role of the capital market, regulation, compliance, accounting rules, became subservient to management accounting, whereas it was intended to be the context of management accounting. As a result Bower's bottom-up resource allocation process degenerated into a budget process, with a focus on (financial) budgeting with a too weak link to the strategy to be executed. The budget process for (implicit) strategy execution resulted in numerous problems. Its year frequency may be too low to absorb fast developments in markets.. The process takes too much time (often nine months) and incurs too much cost. It carries high agency costs, politicking, satisficing behavior, game playing, budget gaming, framing of decisions, etc. (Bazerman & Moore, 2009). A focus on e.g. ROI as performance targets and as a basis for bonuses for middle level managers, results in undervaluation of market opportunities by middle manager to reduce the risk of not achieving their bonus (this is why e.g. Procter & Gamble has split the management of market opportunities (MDO) and exploitation of resources (GBU), whereas in the traditional self-contained division the division managers is responsible for both) (Rosebeth Moss Kanter & Bird, 2009). In the case of linking pin composed executive boards the phenomenon of governance overhang kills initiatives to exploit new market opportunities (Jensen, 1993). Because implicitly Bower's bottom-up resource allocation process, and subsequently the budgeting process is based on the unit-organization, the budget process as depicted in Figure 2 cannot deal with shared service centers, with cross divisional projects and thus not with synergies, nor with the new types of business models. To all these problems is to be added the issue of escalating commitments, this is the tendency for managers (and politicians) to continue to invest resources

in projects with delays, budget overruns, which turn out to be wrong decisions, because they have sunk costs invested in these projects and for reasons of self-justification (Greenberg & Baron, p. 382; Pfeffer, 1997, p. 72). The phenomenon of escalating commitments not only applies to projects, but the *resource dependency view* on the firm suggests that resource allocation often is driven by conventional customers and technologies to achieve survival on the short term (C. M. Christensen, 1997; Pfeffer & Salancik, 2003). That is, in the case of new strategic directions, management needs to create conditions in the systemic context, e.g. in the case of to be achieved cross-divisional synergies that the bonus of divisional managers is based on corporate performance, not on divisional performance, in order that that requested bottom-up initiatives are not hampered by such psychological mechanisms as increasing commitments. Another issue with the budget-driven method for strategy execution is that funds allocated for strategic investments are not properly monitored, and often are confused with operational expenses (C. M. Christensen, 1997; Kaplan & Norton, 2006a). Especially after the control revolution of the eighties, to the effect that investors want to have more control on the spending of the cash flow of the firm, the capital market demands more transparency of investment funds and a more effective monitoring that these investments results in new property rights for the investors and that such funds are not squandered on operations (Donaldson, 1994).

Jensen heavily criticizes the budget process in which bottom-up targets are negotiated with executives and has demonstrated how in the case of hurdle bonuses, a step wise, non-linear compensation system, this creates incentives for middle-managers to game the system. Bottom-up proposed targets deliberately are negotiated downwards to reduce the risk of not achieving the bonus, resulting in sup-optimal performance of the firm, as top-management cannot not always correct his due to information asymmetry in the organization (Jensen, 2001, 2003; Jensen, Murphy, & Wruck, 2004; Pratt & Zeckhauser, 1991). As a result of all these aforementioned problems the budget-driven method for strategy execution is questioned, and as we will explain later on, is being replaced by a method based (more) on cause-and-effect relations.

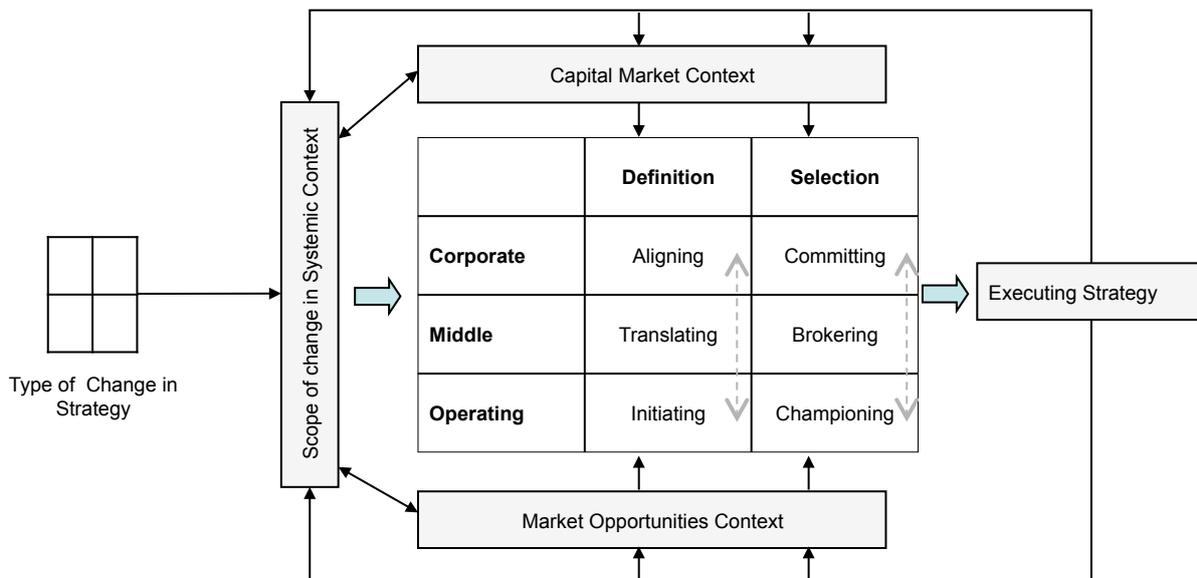


Figure 3. Bower's revised model for resource allocation. 'Definition' is generating new investment options; 'selection' is matching available investment capital for strategy with generated investment options. Adapted from (Bower & Gilbert, 2005a, p. 444)

In 2005 Sull describes the failure of the bottom-up strategy processes and Bower in the same volume expresses his disappointment that especially the behavioral aspects of his bottom-up resource allocation process are ignored (Bower & Gilbert, 2005a; Sull, 2005a). Bower formulates a revised bottom-up resource allocation process, in which in the implementation of a new strategy explicitly, in contrast to his original model, the first step is translating the new strategy in a new systemic context, including making explicit the nature of the strategic context (disruptive or not) before communicating the new strategy and soliciting bottom-up proposals (Figure 3).

To Bower's disappointment must immediately be added that examples exist, especially documented by Kanter, of executives who applied the insights of Bower with respect to behavioral aspects of strategy execution and are successful in strategic transformations. An example is Gerstner who made the elephant of IBM dance through precisely systemic change; another salient example is Netflix, with its 'context, not command' (Gerstner, 2002; Rosabeth

Moss Kanter, 2008, 2011; Strikwerda, 2008). In these cases CEOs do not complain that ‘culture eats strategy by breakfast.’

Bower acknowledges that his revised model has no answer to the changes in the economy in which intangible assets have become more important for value creation and the value of the firm and require the exploitation of synergies, facilitating interactions of workers across divisions, requiring value creating processes across traditional structures, etc. Bower concludes that his model should no longer be applied. He himself has no answer to the issue of intangible assets and the new—synergetic—business models implied by these (Bower & Gilbert, 2005a). Bower does not refer to the publications of Kaplan & Norton, which explicitly are based on the role of intangible assets, to be elaborated in what follows. Perhaps even more remarkable is that in what is probably the best overview book on the administrative school, *From Resource Allocation to Strategy*, edited by Bower & Gilbert (Bower & Gilbert, 2005b), the publications of Kaplan & Norton are not mentioned, whereas as we will see, their works are very important precisely for the administrative school of strategy execution. Kaplan & Norton transformed the budget-driven method of strategy execution in which Bower’s resource allocation process degenerated into a system based on cause-and-effect.

4.4 Intangible assets: new requirements, new options, new solutions

In 1992 Michael Porter, with Wayland, publishes his HBR article *Capital Disadvantage: America’s Failing Capital Investment System* (M. E. Porter & Wayland, 1992). In this article Porter criticizes the internal capital allocation system of American firms, which is the budget-driven method for strategy execution, including Bower’s bottom-up resource allocation process as this degenerated into a (finance driven) budget system. In the eighties of the twentieth century the internal capital market of firms became to reflect the external capital market with an emphasis on short-term performance and a focus on financial performance. Porter states that corporate

strategy, as an investment theory is not strategy; in his view strategy is about creating competitive value at the level of the business. Porter asks the question: the value the investors are after, how is that created? As did Bower in criticizing capital allocation by asking the question: “Where do these numbers that we see in the net present value (NPV) calculations come from?” (C. G. Gilbert & Christensen, 2005). Porter observed, based on research commissioned by the US government that the US-economy in the eighties, compared to the economies of e.g. Japan and Germany was suffering in competitiveness due to underinvestment in intangible capital and overinvestment in tangible capital. The decentralization of firms through self-contained divisions or business units, in combination with the degeneration of Bower’s bottom-up resource allocation process into a budget-process based on non-firm or business specific financial information, biased firms to emphasizing investments in tangible assets, whereas in that period intangible assets became more important for value creation and for the value of the firm. Porter was not the only one to criticize the resource allocation process or capital-budgeting system, Baldwin & Clark joined in this but emphasizing the lack of long-term investments (Baldwin & Clark, 1994).

Accounting rules (IASB-IAS 38) do not allow for investments in intangible assets to be activated, and such investments are to be taken as expenses, reducing the profits in the period these expenses are made. That is, investments in intangible assets reduce the profit in the short term, and capital markets tend to judge CEOs on short term profits, leading many, but not all, CEOs to reduce investments in intangible capital, but in doing so hampering long term profitability. So the issue became how to nudge CEOs in making investments as needed for the competitiveness of their own firm and the US economy, but convincing the capital market that investments in intangible assets would produce profits in the longer term. To this must be added that the capital market in a way acknowledged the role of intangible assets by changing the valuation of the firm from being based on accounting profit and balance sheet items to being based on future cash flows (T. Copeland, Koller, & Murrin, 2000). This valuation however, only

plays a role in mergers and acquisitions, not in the daily process of creating value and developing capabilities.

A trick was needed to change practices in US companies without losing energy and time on changing accounting rules. This trick was to be found in the balanced scorecard (Kaplan, 2010; Kaplan & Norton, 1992, 1996). The balanced scorecard (BSC) is sold in many ways, as a performance instrument, as an instrument for strategy execution, but its intentional economic function is to be a rhetorical instrument for CEOs to explain to investors and to middle managers in the organization the needed balance between investments in intangible assets and tangible assets (but with priority to intangible assets), between focus on the longer term and on the shorter term, between a focus on leading (non-financial) parameters and on lagging (financial) parameters. The BSC usually is presented as a cross of four dimensions, financial, customer, processes, learning & growth, by many interpreted that the performance of a firm is to be monitored simultaneously on those four dimensions. The underlying idea of the BSC is better expressed as in Figure 4 as a logical related system with a time dimension, in order to have financial performance in some future, we need to start with investments in intangible assets (Kaplan & Norton, 2004, 2012).

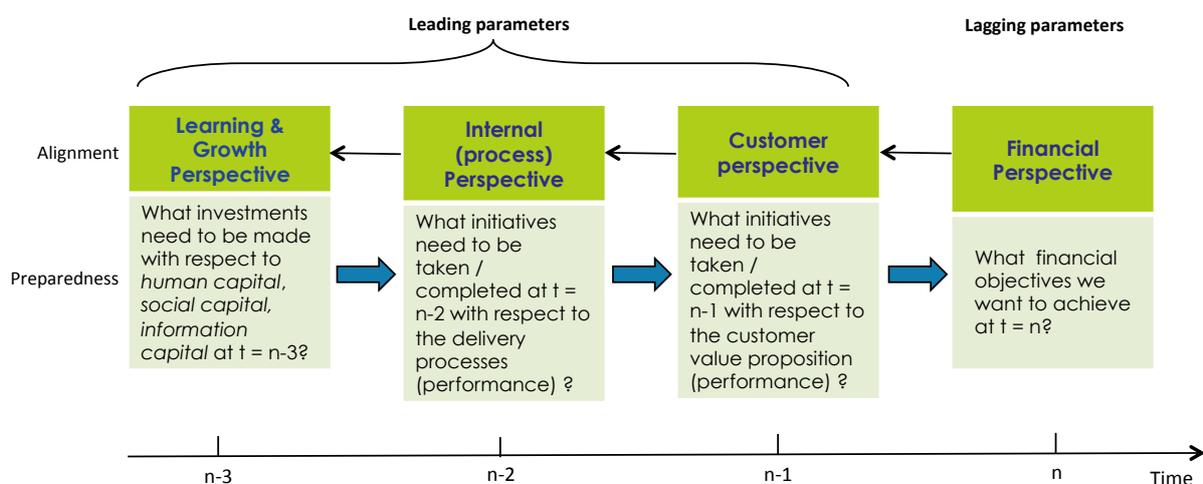


Figure 4. A more complete representation of the balanced scorecard (adapted from Kaplan & Norton, 2004).

The remarkable thing is that Kaplan & Norton never chose to present the balanced scorecard and their management (control) system based on it, as an alternative to Bower's bottom-up resource allocation model. Robert Kaplan even asked the author of this [paper](#) to remove references to Bower from a paper on the fundamentals of the balanced scorecard (Strikwerda, 2014). The reason for this could not be established. Most likely this has to do with a tactic to achieve the ultimate goal of applying the balanced scorecard, the competitiveness of the US economy, in a field of growing accounting rules, corporate governance systems and a more active capital market, by focusing on its instrumentality, based on the concept of the noble lie of the American philosopher Strauss. This tactics can be understood from the HBR-article *How to Implement a New Strategy without Disrupting your Organization* (Kaplan & Norton, 2006b). Kaplan & Norton explain that no change in the structure of the organization is needed to implement a new strategy. Which will be a welcome message to many managers. To implement a new strategy the focus should be on strategic themes, which basically are end-to-end processes to deliver a strategic objective, organized across multiple divisions and resource departments, using resources from those divisions and departments for reasons of recombination of especially tacit knowledge, as accountable entities with a business case and funding. In some cases these processes can be organized within a business unit of division, not creating a major issue for the division management. In the case such strategic themes are to be organized across business units, divisions and resource departments, as implied by the concept of knowledge governance from economy theory (Foss & Michailova, 2009), the positions, power relations, even identities and roles of middle-managers are, sometimes deeply affected, requiring specific HR and management development policies to assist managers to cope with this change. These effects, dependent on the organization, educational level, age, etc. of those involved, easily evoke resistance to introducing strategic themes as formal accountable entities in addition to the existing system of accountable entities. Resistance to implementing such dual or multidimensional organizations is not only with middle-management, it may be also with the finance function because this function

has to increase the complexity of accounting systems and systems for management information. The need for this increased complexity is implicitly acknowledged by Kaplan & Norton in their 2008 book *The Execution Premium*, including a possible resistance to it (Kaplan & Norton, 2008, p. 104).

Whether the balanced scorecard is effective or not as a tool of management, is to be decided not on basis whether strategies are implemented successfully, because strategies for many firms and in many industries are in a flux, but whether companies and institutions operate on the global frontier of Total Factor Productivity (Davis & Albright, 2004; McGowan, Andrews, Criscuolo, & Nicoletti, 2015). The concept of the BSC is widely discussed in a critical way in academic literature, which is understandable due to the multiple ways the BSC is presented by its authors (Dudin & Frolova, 2014; Nørreklit, 2003a, 2003b; Schwien, 2009; Speckbacher, Bischof, & Pfeiffer, 2003). The difficulty is that the BSC needs an understanding of the economic and political context within the BSC was conceived, as well its political objectives and the economic theories on which the BSC is grounded. Fact is that US private firms invest more, as a percentage of GDP, in intangible assets as do European firms, explaining the slightly higher growth in the US of labor productivity in the economy (Nakamura, 2001; van Ark, Hao, & Hulten, 2009). No evidence exists whether this difference in investments in intangible assets can be attributed to the application of the balanced scorecard. Other factors may play a role, e.g. the system of vocational training in Germany. Also is to be mentioned the publications on the importance of human capital, which alike will have raised the awareness with executives of the need to invest in human capital (Becker, 1992).

The balanced scorecard is being discussed both in the literature of management accounting / performance management and in the literature on strategy execution. Because Kaplan & Norton present in different publications the BSC in different ways, it is understandable these publications have difficulty to clarify the role of the BSC in strategy execution.

Fundamental to the concept of the BSC is, based on Porter's concepts of the value chain, a move away from budget-driven strategy execution to resource allocation based on cause-and-effect relations expressed in *strategic themes* which are to be compared to end-to-end processes based on cause-and-effect relations between a number of individual activities in the organization. To understand the concept of the BSC first the concept of strategy map needs to be understood (Kaplan & Norton, 2004). Core in the concept of the strategy map is the concept of the customer value proposition, again following Porter. A competitive customer value proposition will result in financial performance. Different from Ansoff's portfolio based concept of corporate strategy, needed investments to achieve a competitive customer value proposition is determined by the processes needed to perform the customer value proposition. Such a process (or strategic theme when it is about a strategic objective) according to Kaplan & Norton needs to be organized as an accountable entity, having objectives, a business case, funding, in addition to the existing accountable entities constituted by business units and divisions and are to be defined as planning dimensions in the firm's resource allocation process, and are to be defined as reportable dimensions in the monitoring and learning process (Kaplan & Norton, 2008). In the system of Kaplan & Norton there is a bottom-up process of initiatives by the various departments involved to plan the strategic themes (based on an indicative top-down set architecture of the strategic themes), but this time such initiatives are ex-ante judged on their contribution to the achievement of strategic objectives, and if accepted are to be budgeted as STRATEX (strategic expenditures) in the budgets of the departments that will make a contribution to the strategic theme. This it not to say that all budget gaming is eliminated, but in this system there is more transparency compared to the black-box nature of the budget-driven system. In the system of Kaplan & Norton the operational budgeting is linked with the funding of the strategic themes through the expensive category STRATEX, which in most cases is about hours of knowledge workers. A consequence of the knowledge economy, in which new knowledge as much is created in interaction with customers and in operations, is that the long term and the short term

increasingly need to be managed at the level of the individual knowledge worker, which is underlying the concept of STRATEX. That is to say the management (control) system of Kaplan Norton first focuses on investment in human capital to achieve strategic objectives, secondary in investments in tangible assets (Kaplan & Norton, 2004).

Contrary to Bower's bottom-up resource allocation process, Kaplan & Norton have not elaborated the behavioral aspects of their system. They acknowledge that introducing cross-divisional processes as planning dimensions evoke resistance as these effect the power position of divisional managers and as this will make their assignment more complex. Judged against insights of the field of organizational behavior and the insights gained from systemic change, the behavioral aspects of Kaplan & Norton management (control) system must be qualified as deficient. Also it is to be concluded from Kaplan & Norton's concept of the Office of Strategic Management, compared to concepts like information-based empowerment (Simons, 1995) and complexity leadership (Uhl-Bien, Marion, & McKelvey, 2007) that Kaplan & Norton's system belongs still to the era of the command & control organization. However, it might be argued that Kaplan & Norton's system for strategy execution, by emphasizing their 'theory of initiatives' allows for loose programming or perhaps even a degree of trial-and error, where the authors state that companies need to test the alignment of (bottom-up) initiatives to strategic themes and objectives (Kaplan & Norton, 2008, p. 107). There is also some ambiguity in their statement that 'a portfolio of strategic initiatives should be developed for each theme' (Kaplan & Norton, 2008, p. 105). The concept of portfolio originates from capital investment theory, and suggests an optimization of risk/return over a number of more or less independent investments projects. The concept of strategic themes implies a causal relation between bottom-up initiatives for which a network planning with a critical path analysis would be more logical. Apparently the authors acknowledge that no definitive or certain causal chain can be defined thus applying three categories for bottom-up initiatives to shape and implement a strategy: 1. Nonstrategic; 2. Strategic/discretionary and 3. Necessary and sufficient (Kaplan & Norton, 2008, p. 116).

Kaplan & Norton's system is consistent with e.g. the knowledge based view of the firm or knowledge governance, where this theory implies that cross-divisional projects serve to have fast and temporary recombination of knowledge through interaction of knowledge workers, but such projects have to be organized as accountable entities in the system of internal governance (Foss & Michailova, 2009). But the required change from resource allocation to resource mobilization is not part of the Kaplan & Norton system (Doz, 2005). Resource mobilization as strategy execution is about the mobility of individual knowledge workers, across divisions, to have a best combination of personal knowledge in projects, to be decided by knowledge workers themselves, respectively by project managers on basis of self-organization. This is because knowledge workers not only will ask the question in which projects they can make a best contribution, but they also will ask the question 'in which projects my knowledge will develop, increase best?'

Also, by having a multidimensional budgeting and planning system the Kaplan & Norton system is better capable to deal with shared service centers, project business,, project portfolio management, end-to-end processes, etc. and their system basically solves the problem of Galbraith's matrix organization by focusing on a well designed resource allocation process instead of on structure. Also missing from the Kaplan & Norton system are developments like *discovery driven growth*, *self-organization* (which is applicable to strategic themes), real-option based phasing and funding of strategic themes as projects, but their system does allow such developments to be incorporated in it.

So a preliminary conclusion might be that the Kaplan & Norton management (control) system offers an alternative to Bower's system of strategy execution but lacks the needed behavioral aspects and as a system seems not to be applicable for highly dynamic complex environments, unless the concept of strategic themes is interpreted or allowed to be that of self-organizing teams. It also seems to be weak on the intellectual dimension of modern strategy,

cognitive framing, reconceptualizing industries, although some examples in their book point in the right direction. But Kaplan & Norton offer basically the infrastructure, in terms of reportable dimensions, resource planning, etc., as needed in the modern platform organization, with self-organization and by changing in their system somewhat the idea of management information it will also allow for resource mobilization. The system of Kaplan & Norton will by itself not produce brilliant strategies, it provides the infrastructure, the value network in Christensen's terminology, for a dynamic execution of a strategy under uncertainty, provided that it is used from an entrepreneurial perspective, not the accounting perspective of Kaplan.

No information is available of the acceptance or spread under firms and institutions of Kaplan & Norton's management (control) system; neither is any academic research to be identified, contrary to the BSC. From the consulting experiences by the author the observation is that quite many firms and institutions use or have tried the BSC, but only few firms in Europe embrace the Kaplan & Norton system, dependent on the willingness of the CEO and CFO, especially many CFOs are reluctant to change to a more complex (multidimensional) accounting system and planning system, despite that this is needed in a more complex economy and is implied by the knowledge economy (Campbell & Strikwerda, 2013; Hidalgo & Hausmann, 2009). Alike as in the case of Porter in 1992, we see here a discrepancy between changing basic conditions in the economy and accounting conventions.

McGrath is another author stating that resource allocation is key [for implementing a dynamic strategy in a dynamic unpredictable environment] (Rita Gunther McGrath, 2013 Ch. 4). She adds that to have agility in both strategy development and strategy execution a governance mechanism is needed that resources can be allocated not restricted or biased by the traditional power structure of business units or divisions. In a way this is achieved by defining strategic themes, projects etc. as the primary planning dimensions in the system of translating a strategy into sub-objectives and resource allocation, prior to and over the business units. An administrative tool to help this happen is to eliminate all internal, vertical and horizontal

information asymmetry as did IBM in the nineties. Another element McGrath adds to the equation of strategy execution is unpredictability, thus questioning the tradition of strategic planning prior to setting budgets. Using the older existing techniques like real options, she introduced the idea of discovery driven planning (Rita Gunther McGrath, 1999). The concept of discovery driven planning is consistent with a learning economy, in which new knowledge is created by applying knowledge, creating a kind of emergence as in complexity theory, and described by the dynamic capability view. As a consequence closed, linear planning no longer will result in a best return on knowledge, nor in dealing with market dynamism.

A firm may need agility in strategy development and in strategy execution, but as a legal entity and as an object of investment with an identifiable risk profile for the capital market, a firm also needs stability, so states McGrath. This stability can be achieved by introducing the concept of the platform organization, often in the form of a Global Service Unit as in the case of Procter & Gamble, a combination of shared service centers, in which business model / product independent processes, transactions, HR-services, etc. are organized. Such platforms not only are instruments to provide workers access to all the information they may need, but also provide fast feedback information to those who experiment new business models, new products and or processes. According to Manzi, the combination of a clear guiding system, mission, values, strategic choices combined with fast feedback information creates the possibility that strategic objectives can be achieved through trial-and-error (Manzi, 2012). On closer inspection it turns out that Kaplan & Norton's system, especially in the case of multiple products each requiring product specific processes, multiple projects and strategic themes, assumes the prior existence of such a platform or in Christensen's terminology, a value network, facilitating the dual organization. Whereas in the past functional strategies, especially finance, HR, IT-governance used to be defined on basis of alignment (to a defined strategy), we now see that due to uncertainty such functional strategies are defined on basis of *preparedness*.

In thinking about strategy execution the question must be asked and kept in mind to what extent strategic thinking, strategic planning and strategy execution are or can be separate or sequential activities. To think these aspects of strategy are separate or can be separated Martin labels the Execution Trap (Martin, 2010). An endogenic relation exists between strategic thinking and execution capabilities, a more generic expression of the old dilemma whether structure follows strategy or strategy follows structure. In the modern concept of the business model Chandler's 'structure follows strategy' has been replaced by 'process follows proposition' as is a core characteristic of Kaplan & Norton's strategy map (Kaplan & Norton, 2004). Uncertainty, complexity, market dynamics, disruption, dynamic capabilities, as characteristics of the modern strategic context raise the issue of the distinction between the deliberate strategy and the emergent strategy (C. M. Christensen & Raynor, 2003). A strategy execution process needs to allow for learning from doing, to exploit the unanticipated and to deal with the law of unintended consequences. One answer to the growing complexity is developing and implementing strategy through trial-and-error. Characteristic in this approach is a clear guiding system, with strategic and operational objectives that are to be achieved by project management, based on self-organization, trial-and-error, discovery-driven growth, facilitated by fast-feedback information (Manzi, 2012). Whether a trial-and-error approach for strategy applies to all firms is to be questioned.

Both Bower's (revised) bottom-up resource allocation process and the system of Kaplan & Norton have a linear and cyclical nature. The changing nature of the firm, especially intangible assets having become salient, the emergence of information goods, the fact that the information space has changed, workers, managers and executives now living basically in the same information space, a higher agility in the interface between firms and customers, imply that for an increasing number of firms strategic thinking, strategic planning and strategy execution no longer are sequential processes, but multi-layered continuous parallel processes, with different frequencies in change of states, but nevertheless continuous. This is also a consequence of the

increasing complexity, in which abstraction (from operations into strategic thinking) is a tool to cope with that complexity, both at the level of the individual and at the level of the firm. The modern day business dynamics implies also a change in the nature of the systemic context (systemic context is to be preferred over structural context, because structure in today's organization is subservient to decision rights, information and the factoring of targets). The modern day systemic context today is to be seen as an infrastructure, e.g. through a platform, allowing for a range of new business models to develop, e.g. through a modularity and multidimensionality in systems for management information and accounting information (C. M. Christensen, Grossman, & Hwang, 2009 Chapter 6). Elements of this are to be found in the system elaborated by Kaplan & Norton, including the issue of the learning organization. But it seems that because it requires close reading to see the underlying fundamental changes in the economy, if even often felt very well intuitively, there is a lack of imaginative concepts to move the average reader away of the concepts of the unit-organization, which indeed is a difficult pedagogical task. The Kaplan & Nolan system is weak on especially new types of strategy development, the methods they suggest for strategy development are intellectually weak in view of the modern technology, industry changes etc. Their system is strong if viewed as the basic concept with respect to the dimension of management accounting, management information and resource allocation as needed in the concept of the platform organization. It solves the issue of the stability of resource configuration versus resource combination and allocation, it allows to combine agility and stability, and it solves the issue of silo-organizations.

The name administrative school to categorize Bower's system of strategy execution and that of Kaplan & Norton is apt because it is a school that is understood by relative few CEOs, those of e.g IBM, Procter & Gamble, Publicis, Google, Netflix. These are CEOs who display holistic thinking (Lafley & Martin, 2013). That is these CEOs look through strategy, management control, management accounting, HRM, IT-governance in terms where to set which conditions in the organization to facilitate the behavior their strategy-as-a-process needs.

5. A synthesis of schools?

Is the existence of multiple schools on strategy execution a benefit or a problem? In academia in general a multiplicity of viewpoints is to be maintained to have an as rich as possible domain of insights as a source for understanding and preparedness for new developments. No single theory or model will be able to serve all possible developments. Especially with the shift to organization design a variety of perspectives and theories will be needed to design in actual cases a most efficient solution. Especially an issue is how to have resource allocation or resource mobilization in the case of complex organizations, especially when organized complexity is needed for reasons of adaptability, synergy exploitation, combinatorial innovation, self-discovery and such. From a theoretical viewpoint a model for strategy execution that can handle complexity is to be preferred over simple models. Dependent on the situation a complex model can be toned down to a simpler version fitting the situation. From a viewpoint of control (which is different from a viewpoint of e.g. product complexity), organizations can be attributed three types of complexity: 1. Multidimensionality (planning and reporting the performance over multiple dimensions, this may include a non on-to-one relation between customers, products and resources) ; 2. Loose control or loose programming; 3. Self-coordination or self-organization (of projects, including resource mobilization). Based on the work of Kanter, one might depict the modern organization, based on knowledge work, as existing of thee elements, a guiding system, tools for knowledge workers and a platform (Rosabeth Moss Kanter, 2008, 2009). The guiding system exists of the mission, values, the strategic choices, translated in a portfolio of activities, projects and strategic themes, and available investment resources as well as human capital. The platform consists of what formerly was labeled shared service centers, taking care of all transactions, reward systems, information systems, services, facilities, logistics, compliance, reporting, rule based control, feed back information, etc. (Figure 5) That is, the platform is tasked

to support the knowledge workers. Figure 5 also expresses that strategic thinking and execution are continuous parallel processes.

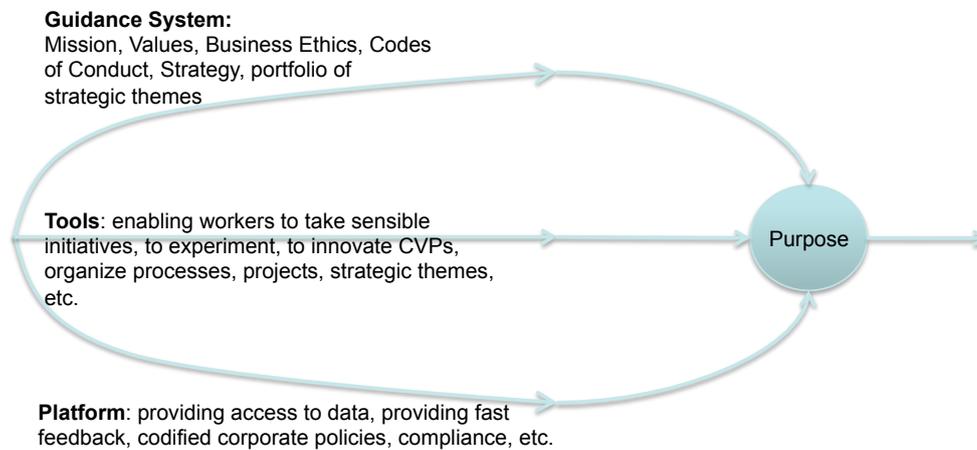


Figure 5. A generic concept of the organization to facilitate knowledge workers in a setting of organized complexity.

From the various models or schools we discussed, the system of Kaplan & Norton, through the introduction of strategic themes as accountable dimensions in addition to that of the divisions, allows for a higher degree of complexity in terms of dimensions of the organization, including a higher complexity of information. This part of the K&N-system is to be organized through codification in the accounting and information systems, creating a platform supporting a higher degree of complexity, in terms of planning dimensions, processes, projects, resource allocation, project portfolio management, etc. The part of the K&N-system about setting the strategy, defining these into strategic themes, the funding and accepting initiative for funding is part of the guiding system.

Creating a culture or climate facilitating proper cognitive framing, avoiding parochialism and being stuck in the conventional thinking, based on Bower's model, to a large extent is creating a proper systemic context, apart from leadership. The elements of Bower's systemic context are partly in the guiding system, mission, values, the nature of strategic thinking, and the HR-policy, partly these are in the platform; access to information, performance criteria and

assessment, the facilitation of resource mobilization, fast feed-back information etc., compliance, etc. Performance management as strategy execution has two categories; the first is of part of the guiding system, defining proper (complex) objective functions, and the second being part of the platform, measuring and reporting performance. The type of performance management, e.g. tight financial control versus loose control is a corporate policy to be decided as part of the guiding system, but to be codified in the (interactive) control system. The structure school of strategy execution is being solved in the system of K&N, through defining processes, projects and strategic themes in addition to the existing divisions. The management of change school for strategy execution can be incorporated in Figure 3 as well. Management of change in this case is not so much about creating new structures, but it is adding to the existing structure the three elements of Figure 3 as an overlay over the existing traditional structure. This in itself can be an major change project as it involves changes in the system of power distribution of the internal organization, changing roles of managers, changing identities and it will require training and developing members of the organization to understand and to work in a more complex system offering more options for workers. Once achieved at a certain level, this type of change is built into the organization. A second issue of change will be the issue of cognitive framing, to educate members of the organization in sense making beyond existing business models, to be design thinkers, etc. Most likely this type of change will be a continuous ongoing process.

The participative or interactive school of strategy execution will be part of the tools-level, in which workers are asked to generate initiatives how best to achieve strategic objectives within a set budget, this including involving suppliers, customers and others. Those developing proposals are facilitated by the platform to do what-if analysis, plausibility tests, etc. This includes the issue of self-organization of projects and self-coordination, facilitated by information from the platform. This is the third dimension of complexity.

The dynamic view school in practical terms is about discovery-driven planning; using modularity, open innovation, real option theory, etc. This requires policy setting in the guiding

system, especially on the valuation of projects and the (phased) funding. This has to be supported by information and tools by the platform, but knowledge workers need to be trained in this in order that they can develop sensible initiatives in terms of valuation and learning processes.

This proposal to see the various schools for strategy execution in perspective and in terms of their mutual complementarity will help practitioners to sort out aspects of strategy execution, and to define a simplicity based on understanding the complexity. Academics may use this kind of landscape both to position and to focus their research in view of economic and technological developments.

The proposed synthesis of school is not meant to create one model or perspective, it should serve to foster a multiple perspective, strategy, management accounting, management control, human resources, knowledge management, corporate finance, etc.

Of course many questions are to be answered in the case of specific firms, the way it is financed, available human capital, the nature of products and services, the nature of its market, its customers, etc. all will define the actual most efficient system.

To represent this integration graphically we need to make a distinction between a more static part of strategy execution, creation an infrastructure capable to deal with dynamics and complexity, and a more dynamic part of strategy execution, resulting in a dynamic process of allocation efficiency and adaptation efficiency. For the static part we modify figure 3, Bowers revised model, in combination with figure 5, resulting in an allocation of changes in the systemic context, as depicted in figure 6.

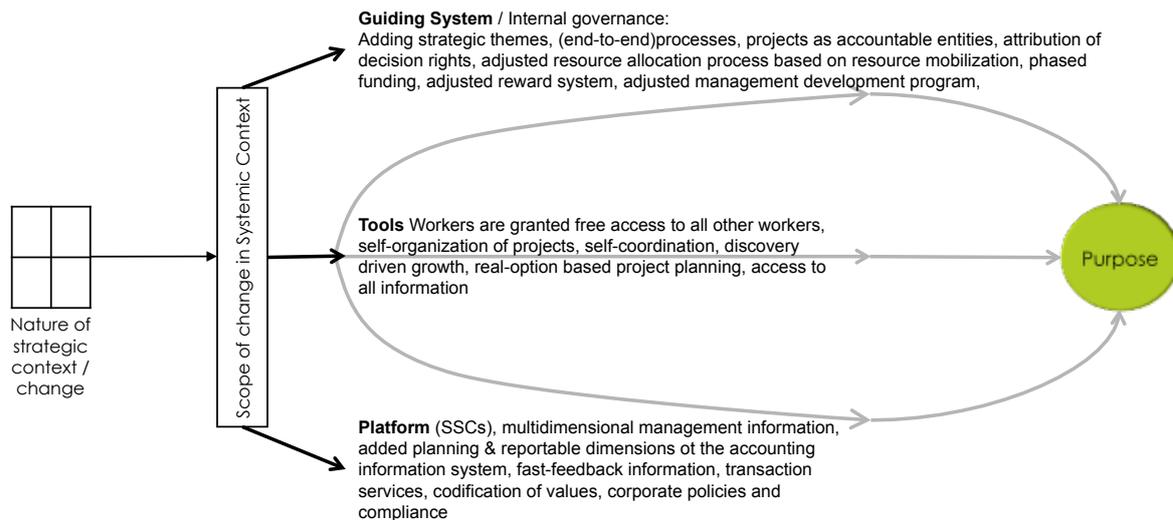


Figure 6. Bower's issue of first setting the systemic context before initiating proposals for a new strategy, but built up of elements of the Kaplan & Norton system to allow for intangible assets and thus enabling across divisional synergies, and some elements of McGrath to allow for uncertainty and dynamic capabilities, organized in Kanter's concept of the organization as a system of guiding system, tools and platform. In terms of management of change this model assumes systemic change rather than management of change, however, introducing additional reportable dimensions and shifting e.g. the profit center from divisions to processes/customers implies a fundamental change in the power system and thus may be difficult to accept by those affected, especially the managers of divisions. The structure school for strategy execution in a way is made irrelevant because the elements Compiled by the author based on consulting experiences and publications by amongst others Bower.

In Figure 6 it is assumed that, dependent on the nature of the strategy and the nature of the firm and its context, that the definition of strategic themes, projects, processes is not a year-cycle process but a continuous process, balancing exploration and exploitation, using techniques like rolling forecasts, discovery-driven growth and real options. The static part is static as an enabler, but as an enabler it allows for dynamics. The static part of the synthesized system for strategy execution is about preparedness for the development of new strategies and businesses.

For the dynamic part, that is for the allocation efficiency part of strategy execution we use an adaptation of the resource allocation process used by companies like Shell and Cargill to align their global businesses with their national operations. Basically in such multinational companies the global business are virtual planning entities as for legal and fiscal reasons their operations, assets, etc. are organized in country organizations. In more abstract terms this model can be interpreted as the global businesses being the business lines exploiting ideas and market opportunities whereas the country organizations are resource units, and the deployment of the resources is defined by the global businesses as primary profit centers in the system of internal

governance. In terms of knowledge governance, the global business lines can be read also as processes, projects, strategic themes as accountable entities, allowing for dynamic recombination of tacit knowledge and other assets from the resource departments thus achieving combinatorial innovation. This is what basically Kaplan & Norton do with their strategic themes. This results in a resource allocation process as depicted in Figure 7.

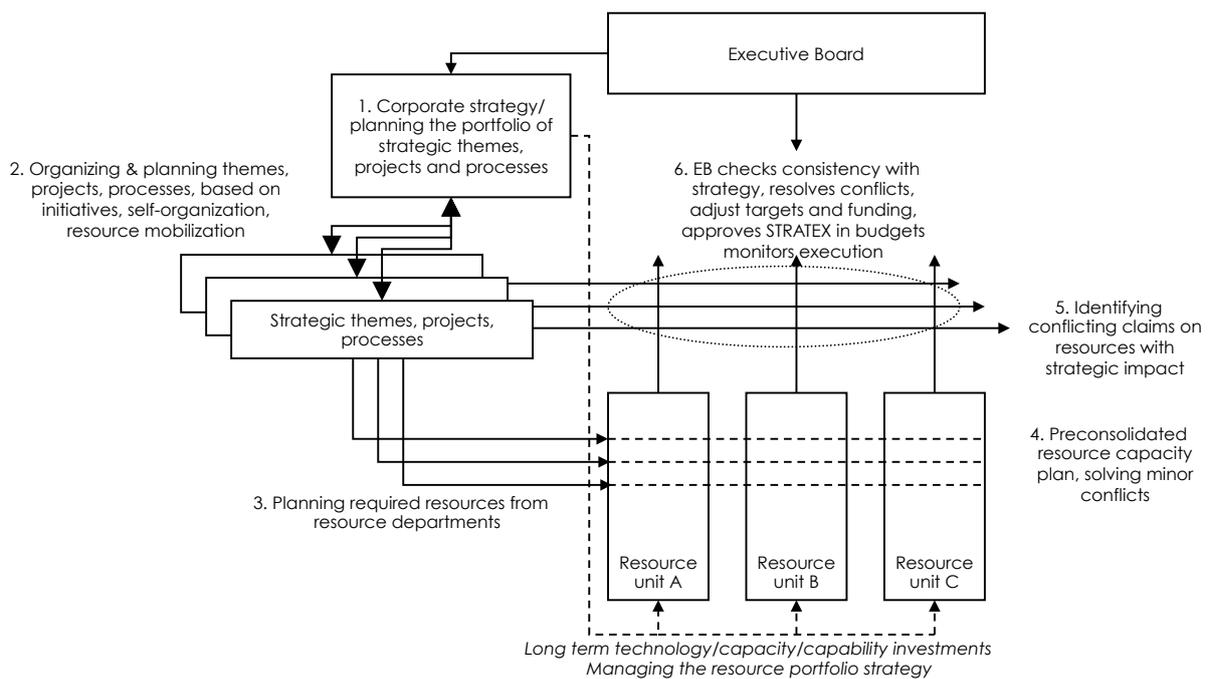


Figure 7. A redesigned resource allocation process, using elements of the Kaplan & Norton system, their concept of the Office of Strategic Management in step 1, the K&N's methods of initiatives in the iteration between the steps 1 and 2, their concept of STRATEX to link the budgets of themes, projects and processes, but adjusted for long term investments in resources beyond the short term interest of projects and processes. Within this system performance management as a sub tool for strategy execution can be applied, provided it is expressed in a multidimensional objective function. The dynamic capabilities school should be integrated in the model, partly through long-term investments independent of the demand by the projects and themes, partly through the concept of discovery-driven growth and phased funding by McGrath. The model assumes one database and shared information accessible for all.

The process in Figure 7 in the past used to be a year-cycle budget, but that won't work in a dynamic market. So dependent in the nature of the firm, its technology and markets, most likely the resource allocation process in Figure 7 will be multi-frequency, it will be run with a multi-year horizon in the case of investments with a long time horizon, their will be a year cycle, a three month cycle, e.g. in view of planning the hiring of workers, a month cycle for scheduling and most likely a week and even a day cycle at operational level to solve day-to-day problems. Within

this concept of the resource allocation process concepts like discovery-driven growth, open innovation (the outside world being a source of (innovative) resources) and real options can be applied to improve the chance on success and reduce risks. Resource units can be operational, e.g. assembling, manufacturing, or these can be supporting services of a more generic nature. Again this concept of a resource allocation process can be linked to Kanter's system of guiding system, tools (at the level of strategic themes, projects and processes) and platform (the resource units).

A remark needs to be made on the nature of the resource allocation process. The phrase 'allocation' suggests a central authority that allocates resources to business opportunities. Especially in the case of knowledge workers it will be difficult if not impossible to have an efficient allocation of knowledge workers as resource over projects and processes due to the detailed level of required information on available knowledge, skills and attitudes versus what is required. This knowledge will not be perfect, neither on the supply side nor at the demand side, neither in a central office neither by those working on the floor. As with decision making a match between supply and demand best can be achieved decentralized, which will partly through discovery. Due to the to be applied concept of open innovation, the supply of possible knowledge worker is infinite, at least not restricted to those hired by the firm, the firm will want to make use of the wisdom of the cloud. At the same time this match of supply of resources and demand for it needs to answer Coase's criterion, the firm needs to coordinate its activities more efficient as does the market mechanism (Coase, 1937). If not the firm will be nibbled away by start-ups, likely by its own workers, and or disruptors. This implies that especially for self-organization those involved information needs to be available on the portfolio of projects, processes, strategic themes and their specifics with respect to required knowledge, skills and attitudes, and available knowledge workers with alike characteristics. Increasingly this is being played out through social media, especially Facebook. In addition to information on profile information is needed on the utilization of individuals and there availability alike more specific

capacity and timing estimates of projects and process (taking into account uncertainty, requiring flexibility in resource matching). This information also is needed for reasons of protecting individuals against overload and working too many hours, as this may contribute to stress and burnout.

One might ask the question why it would not be possible to integrate Figure 6 en Figure 7 into one model, as is the tradition in the field of business administration. Based on Bower's experience for the moment it seems better to separate the preparation of the organization of the firm, turning the organization of the firm in Christensen's concept, into a value network, allowing for the dynamism described in Figure 7. As we have seen, first the context needs to be defined and created, before asking people to behave and think in a different way.

6. Conclusion

What at first view looked as a problem, no single paradigm for strategy execution, with multiple, what seemed to be unrelated, schools in strategy execution, turns out to be unifiable. This unity is not created by formulating one model or the paradigm for strategy execution itself, but by taking the perspective of the modern, knowledge-based firm in the context of a complex environment, expressed in administrative tools based on the information-based organization as opposed to both tangible assets based tools and generic descriptions of organizations. The information-based organization allows for more complexity that in its turn allows for absorbing a range of separate functional theories or models. Whereas in conventional mathematics-based complexity theory reductionist abstraction is pursued to create general theories to cope with complexity, but in doing so reduces the semantic complexity, using Simon's insight that the organization of information solves the limitations of traditional Weberian structure creates a viewpoint consistent with the holistic thinking of successful CEOs and their conceptual

complexity. This view also is consistent with the growth of complexity in the economy as a prerequisite for economic growth.

The review of the different schools for strategy execution also lay bare that models always are based on assumptions, e.g. Bower on the unit-organization, the structure school on tangible assets, etc. At the same time the review of the schools of strategy execution reveals a communication problem in both management books and in MBA-training: in what type of language to communicate? Is it the easy to listen to generic language of management models, providing an overview of aspects, but not being specific on what concrete (system) decision to make, or should it be in multiple languages, management control/accounting, organizational behavior, internal governance, IT-governance, more difficult to understand, depending on ones training, but specifying specific (system) decisions to be made? What is more effective for economic growth, popular, well read management books which are unspecific with respect to actions, or specific publications that are only read by a small audience? Or is it that the growth of complexity in the economy and thus in organizations, also affects or should affect the concept of management models and management books? Also for management models and management books the rule is: simplicity beyond complexity. Or as De Bono phrases it writing on simplicity: "If you do not seek to understand a situation or process, your efforts will be 'simplistic' rather than simple. Simplicity without understanding is worthless. ... Concepts are the human mind's way of simplifying the world around. Warning: If you do not use concepts, then you are working with detail."³ De Bono also writes: "You need to know for whose sake the simplicity is being designed. A shift of complexity may mean that a system is made easier for the customer but much more complicated for the operator [the CEO]". To make the organization for knowledge workers simple, CEOs and professional staff must be prepared to absorb and to handle more complexity. One might conclude from this review of schools for strategy execution, and its proposal for synthesis or assembly, that the role of academics is to see the complexity, to

³ <http://moc.co/2005/05/de-bonos-simplicity-principles/>

acknowledge all the functional aspects in their technical detail, but leaving the choice from these for a simple solution in an actual situation to the manager, instead presenting simplified models. We need to be ambitious to achieve what we should achieve, but without being realistic how things actual work (and how this changes over time), ambitions are doomed to disappoint. Being realistic, to be stuck in how things work, does not produce progress. We need to know what to change to create conditions that produce innovations, new products, and new growth. This requires both a holistic view on the situation and a feeling which detail is pivotal for change. In that way the issue of strategy execution forces us to reconsider the way we look at organizations and at managerial practices.

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